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ORIGINAL ARTICLES.

PERSISTENT STIGMATA RESULTING FROM CUTANEOUS DISEASE.[1]

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IN the pages that follow it is designed to call attention to those morbid appearances of the surface of the body which are the persistent relics of cutaneous disease. The word *stigma* is employed in this connection in the broad sense defined by the lexicographers, as the equivalent of a mark or sign. The stigmata that bleed, and to which this name has been restricted by certain writers in medicine, are not here included.

The special field, therefore, to which the attention is asked, is that of the persistent surface-markings of the hairy, and so-called non-hairy, portions of the body, which are the evidences, not so often of a disease that exists as of a disease that has existed, and, having undergone involution, has vanished, leaving, so to speak, its footprints behind it.

Surely there is here no need to urge strenuously the serious importance of the theme. It has a practical value for every physician and for every surgeon. There is no diagnostician, no oculist, no obstetrician, no examiner for the military service, for pensions, or for life insurance, who, for a moment, can afford to be ignorant of the object-lessons furnished by a dead disease. The knowledge to be gained by a study of these details has, at times, solved the problem of life or death; at times it has lifted one physician, struggling in a slough of doubt, to the solid ground of certainty; and it has furnished the clue by following which another has trod the pathway to his most brilliant and triumphant successes. He who is ignorant in these matters is indeed handicapped as against competitors.

In the brief time at my disposal I cannot venture upon an exhaustive discussion of this subject. I shall attempt to touch merely a few of the salient and interesting questions that it suggests. You are, indeed, all familiar with the ground, otherwise you would not be physicians and members of this honored association. All I can hope to do here is to awaken your interest by glancing at some of the facts which our common experience has collected.

[1] An address delivered, by invitation, before the Wisconsin State Medical Society, 1892.

The persistent stigmata of the skin are symmetrical or asymmetrical, generalized or circumscribed changes in the pigment or texture of the derma; a superfluity or absence of the pilary growth on the hairy parts; and scars, scar-like, keloidal, or atrophic patches following inflammation, perverted innervation, new growths, invasion of microörganisms (chiefly the obligate parasites), ulceration, gangrene, atrophy, and the growth of vegetable fungi upon the bodily surface.

The stigmata thus produced differ both as to frequency of occurrence and importance. Some are scarcely more than morbid curiosities—such are the milky skin and snowy hairs of the albino; some are pure disfigurements—such are the oddly notched patches of baldness seen very rarely over the occiput, temples, or vertex of the subject of an ancient and obstinate but departed favus; others again are almost of a physiologic type, and among these may be enumerated the symmetrical baldness of the scalp of the old man, and the atrophic striæ in the abdominal integument of a woman, visible during life after a first pregnancy.

All these tell their own story, and tell it very plainly. We read it daily with scarcely an effort. Some are even recognized at a glance by the profane, and are interpreted with greater or less accuracy, according to the education of the observer. Others are of greater significance for the practitioner. They are persistent stigmata of diseases that have been, it is true, but are also traces of a disease that, though vanished for the time, may have its reawakenings. They may furnish the tokens of a disease that, having done its worst in one region of the body, may yet attack another. It may be the last that attracts our attention—for the relief of which, indeed, we are summoned. It may, however, be the former that will indicate to us the nature of the process.

Without question, the stigmata of first importance in this view are scars. They have been well defined as new-formed substitutes for lost connective-tissue. A disease that leaves a scar is a malady whose lesions have invaded and destroyed a few, at least, of those connective-tissue cells that are ingeniously woven into the basket-like structure we call the true skin. We cannot tell how many must be destroyed, or how deeply the destructive process must advance, before indelible scarring results. We only believe that some scars are transitory and some persistent.

But we may be pretty confident that the eye of the microscope, if properly directed, would recognize a persistent scar in any skin where a needle has once been thrust down completely to the panniculus adiposus. It is true that we say, metaphorically, that Nature delights, as the years slip by, to smooth out the deformities and obliterate the signs of damage done in the past. But, for all this, the fact remains that a pin or a needle thrust into the skin of a child may leave a mark which can be recognized in the dead body half a century or more after the infliction of the traumatism.

It has been said that if one could be suddenly transported to the city of London in the beginning of the present century, and be enabled when walking its streets to observe the pedestrians on its sidewalks, he would be first surprised, not so much by the strangeness of their dress, of their speech, or of their manners, as by the fact that such an enormous proportion of them bore upon their faces the disfiguring scars of smallpox. It is probably within bounds to say of the closing years of the century that, if we were enabled to scan the naked bodies of all the pedestrians on our streets, it would be seen that the scars produced by syphilis far outnumber those produced by smallpox. In the last-named disease the scars are more conspicuous because thickly set over the face; in the other, the scars are more often formed on the lower extremities, and are therefore not exposed to the eye of the casual observer.

Every physician should be so thoroughly familiar with the scars left by syphilis that, if need be, he could swear in court to their character. When perfectly typical they resemble nothing else in the entire scope of pathology, except a relic of the syphilitic process. Let us look at them carefully for a moment, and then at their value in a diagnostic view.

First, then, they are often elegantly rather than clumsily wrought. The ulcers of late syphilis are often so formidable and threatening that one who is not expert will not foresee how delicately and beautifully repair will be accomplished and the evidences of mischief smoothed away after the lapse of five, eight, or ten years. Even the rift in a mountain or rock is partly filled by its own detritus after the storms of a few seasons have swept over it.

Second. As syphilitic ulcers are commonly rounded in outline, so these peculiar scars are in circles, or parts of circles, giving us the semilunar, quarter-moon, and gibbous outlines, with combinations representing the figure 3 or 8, the letter S, the form of the kidney, of the horseshoe, and of the dumb-bell.

Third. The pigmentation they exhibit is peculiar. It is best studied naturally in the lower extremities, where, as in the cicatrices following traumatism and healed varicose ulcers, the staining from coloring matters brought thither by the blood effused in excess in and about the part is most conspicuous and persistent.

I think there is no question but that both individual and race peculiarities influence the degree of this staining. It is marked in many deep brunettes; it is rarely as disfiguring in very light blondes. In the scars of syphilis, which we are now studying, the color in the cicatrices following freshly healed ulcers is at first that simply of hyperemia, dull-reddish, purplish-red, occasionally even pinkish-red. As the infiltration subsides the color becomes more apparent, till we have every variation, from the deepest chocolate to the lighter brown, evenly tinting the scar-tissue, and in some cases more than others staining the integument beyond the outer wall of the cicatrix, forming with a species of pigmented halo, half or a full finger-nail in width, and corresponding in shape to that of the ulcer which preceded, semilunar, kidney-shaped, etc.

After a period lasting from a few months to as many years, the process of discoloration begins in these singular-looking stigmata, the difference of time depending largely upon the general vigor of the patient, and upon the occupation—a prolonged observance of the erect posture, as in wheelsmen of vessels and train-drivers, being unfavorable to rapid removal of these coloring matters.

The entire process of decolorization may be concluded in three or four months, but may require a much longer period. It has occurred to me that it is more rapid in women than in men, but of this I am not positive. A completely decolorized scar of the leg, wholly destitute of undue pigmentation, in a male patient of average weight and vigor, commonly points to a syphilitic infection from six to twelve years previously, unless the decolorization has been completed and the scar has remained practically unchanged for some time. Then, of course, one can often verify the fact that fifteen, twenty, or twenty-five years have elapsed since the date of infection.

Let us look for a moment at this wholly decolorized scar. It is perfectly distinct texturally, though suggesting to the scientific eye that can read its past history, that it is faded. It is smooth, unattached, occasionally picked out in points, as though one had treated it with the tool of the engraver or the burin of the etcher. Its color is that of the familiar dead-white of an old scar; but very rarely indeed is it rigid, puckered, or elevated as in spurious or true keloid. Occasionally, even when ancient, there is an appearance at one or more points of a thin scale, which may be detached from its surface. Its conspicuous features are its delicacy and its thinness. It may, with great readiness, be plucked up from the

tissue beneath, between the thumb and finger. It is best compared with a thin sheet of mica lightly let into the skin. It is very slightly depressed beneath the general level of the integument.

Repair has been so finely wrought in such a case that as one sweeps the fingers over the surface it can scarcely be recognized by the touch where the new-formed tissue exists; and the movements of the limb may not cause the slightest puckering of the skin where the scar is formed. It answers admirably all the needs of the part, save that it does not furnish sweat or other secretion in normal measure, and but few if any hairs appear upon its surface. Who would suspect, upon examination of this superficial and at first sight insignificant patch, that it had been once the seat of a deep, exquisitely painful and even formidable ulcer, boring within to the very lowest stratum of the panniculus adiposus, and causing in some patients more apprehension than a fractured leg or an apical pneumonia?

There are some variations of this typical portrait that must be studied in order to compass our end. Almost every syphilitic cicatrix of the size of the section of an egg or larger, if examined with care, will be found to be made up of a congeries of smaller lesions, each of which is possessed of the characteristics of the larger. The mode of grouping of these smaller scars, each, perhaps, as large as a thumb-nail, is quite in accordance with the law of the circle we have been studying. Sometimes, rather more rarely than in the other forms that we have to notice, a large central lesion is surrounded by a circlet of the smaller, suggesting the familiar arrangement seen in a brooch set with pearls. Again, we have the so-called "satellite" figures, a larger patch, with one or two of the smaller set on at the edge; or the figure is strikingly like that of a trefoil or quatrefoil slightly distorted from the strict architectural pattern. At times the patch is made up wholly of these small circlets, compactly gathered within an oval, roundish, or circinate outline, the compound lesions conforming in every detail to the description given.

Studying these combinations, whether in the figures selected for illustration or in the S-shaped, kidney-shaped, or often variously shaped figures, we find that each component element of the group may be recognized as to age by its separate decolorization-process. In a patch of this kind one may at times see that the process of whitening is going on at nearly the same rate in each scar, all for example at the moment of observation being provided with a tolerably clear or clearing center, and a reddish or purplish rim outside the latter.

It goes without saying that the still highly tinted and not wholly decolorized cicatrices of syphilis are often seen in combination with, or in close juxtaposition to, the ulcerative or resolutive lesions that originally produced them all. Thus in a circinate group a cluster of finger-nail-sized scars may form the crescentic border of a patch the corresponding incurved border of which is made up of healing ulcers where gummata have softened, each a miniature as to outline of the scar that will succeed. A consideration, however, of these unhealed lesions would lead us too far from our present purpose, that, namely, of viewing only the stigmata that persist.

Studying these interesting relics of disease in other regions than the lower extremities, we discover always the same general characteristics, with differences due largely to peculiarities of situation. On the other extremities, for example, we find scars of the same type, but with very much less pigmentation, and this latter, when at all conspicuous, is removed in a far shorter time than elsewhere. Thus a group of shallow and depressed, circular bean-sized scars, a dozen or more in number, may be seen over one or both of the olecranon processes (a common site) quite destitute of color in six months after their first development; and the same may be said of a large saucer-sized and saucer-shaped patch that may be seen over the point of a shoulder, near the clavicle, in front of the upper chest, or, not rarely also, over one hip—all favorite sites of this peculiar disfigurement.

It is on the face that the characteristics we have been studying are first lost, and where confusion is most likely to arise. The causes are, *first*, the frequent absence, for more than a few months at the most, of the pigmentation; *second*, the configuration of the folds of the skin of the face, making irregularities in the surface; and, *third*, the interference with the natural progress of repair, often mischievously directed, in order to overcome at an early hour the too evident impairment of personal comeliness. The chief variations from type are as follows:

1. The multiple and almost symmetrical small (pea-sized and larger) scars left by resolving or ulcerating tubercles. These are likely to be confounded with the scars of variola, on account of their great number and the absence of the typical features of the scars we have been studying on the lower limbs. They are often no larger than peas or beans, are somewhat symmetrically, at times very irregularly, strewn over the face, and are set into the skin about as deeply as the cicatrices of the same region left by smallpox. But the differences between the two, however close may seem the resemblance, are on careful observance apparent.

The syphilitic scars of this order are seen more often and more abundantly upon the upper half of the face, while the variolous relics are more generally and impartially diffused. In syphilis the

scars affect the brow preëminently; and after this the temples, the outer nares and the outer angles of the lips; often the tip of the nose, the center of the upper lip, and the entire chin are spared. The marks of smallpox are often conspicuous in these last-named regions, and in well-marked cases are thickly and uniformly spread over the whole countenance—an exceedingly rare occurrence in syphilis.

2. The single, small, or relatively few larger deforming scars of the face more nearly approach those of the type studied on the lower extremities. These are illustrated by the crescentic cicatrices visible a short distance from the angles of the mouth, set into the skin of the cheek, the convexity turned toward the angle of the jaw, the concavity or plane outline next the mouth. These may be an inch or more in diameter, and when closely studied exhibit the traces of the gummatous ulcer in outline and superficial erosive action. Such scars, too, are not very rarely displayed upon the lower brow, as if one had taken for a center the point of exit of the supra-orbital nerve from its foramen on one side, and swept over the brow a semicircle with a radius of half an inch or more. A smaller scar of this type is formed in some patients in front of the ear, looking something like the outline of a seashell, semicrescentic in contour and not larger than a thumb-nail.

3. Lastly, the wholly irregular scars of the face, the difference of which in type from all those previously described, is due either to traumatism or to the influences of special traction in the performance of the functions of the facial organs. Here may be named the strictly linear scars, vertically directed along the brow where scratching has occurred, or when the finger-nail has torn off a crust and with it a portion of the integument, directing the ulceration in a peculiar line. This is of the rarer type. Much more common, and, for the purposes of diagnosis, much more important, are the so-called lines of puckering at the outer angles of the lips. These, when typical in the adult, are not one whit less significant than when seen in the infant affected with inherited disease; and are usually due to the same cause, viz., the occurrence of ulceration as a complication of mucous patches in the muco-cutaneous folds about the angles of the lips. They are always radii from the long axis of the oral cavity, rarely proceed to any distance from the verge of the mouth, and present an odd-looking, puckered appearance that persists through life. So far as is known to me they are absolutely diagnostic of syphilis; I have never seen them, with characteristic features and when affecting both angles of the mouth, in any other disease.

In this same group may be named the exceedingly irregular, small-sized, isolated scars of syphilis found upon the face. These are jagged, single depressions, one or two of which exist in some patients on the sides of the root of the nose, on one cheek or both, or in the region of the beard in the male subject.

It was once held by some excellent diagnosticians that the *alopecia prematura* of the scalp in the third decade of life was suggestive of syphilis. We now know that this was a palpable error. It is a demonstrable fact that there are no forms of baldness of the hairy scalp so amenable to a proper treatment, so often, indeed, remedied without any treatment, as the early symmetrical alopecia of recent syphilis. It is, however, far different with alopecias of late syphilis. These are all due to cicatricial lesions, or those going on to the production of cicatrices. Here we have a distinct recurrence of our type studied in the leg. On examination the scar does not, at first sight, stand out so conspicuously as upon a non-hairy surface. We have to separate the adjacent hairs in order to gain a view of it. When fully disclosed it is seen to be our old friend, and with scarcely an attempt at disguise. There is the crescentic border, the reddish or purplish hue of the surface not long healed; the deeper purple for a brief time after the healing; then the relatively rapid decolorization; lastly, the dead-white or dull-white scar, with, perhaps, one or two hairs only growing in the center of the bald patches, which are as large as a silver dollar, or the section of a hen's egg. This is the seat and explanation of the irremediable alopecia of authors, due to late gummatous involvement of the scalp.

Lastly, in this hastily-enumerated list, must be named a scar of interesting features, belonging, however, to quite a different period of syphilis, and due also to causes different from those heretofore considered. At no very remote date examiners for the military service of the United States Government were cautioned to search for scars upon the penis as signs of chancres. Let us hope that in this late day they are wiser in these matters. It is well known that the immense majority of chancres on the progenital region of the male leave no scars. The initial sclerosis is usually resolved, leaving no trace behind it of the primitive accident. The majority of cicatrices left in this region as sequels of venereal accidents are those of chancroids, the so-called "soft" or contagious, auto-infective pustular and ulcerative lesion of this region.

It is well known, however, that continued irritation of the initial sclerosis of syphilis may cause it to ulcerate so deeply that it will erode the connective tissue of the derma to an extent sufficient to leave a scar. Savin cerate, caustics frequently applied, and spontaneous gangrene (rare of occurrence, indeed) may induce this erosion. There is,

however, one initial sclerosis that is the seat of well-nigh constant irritation till its usually long-deferred healing is completed, and that is the infecting chancre seated immediately within the meatus urinarius. One very emission of the urine its surface is covered by a fluid highly charged with urinary salts, and the pain of micturition is correspondingly great. The diagnosis of this lesion, when in activity, is made with the greatest ease, without the aid of the endoscope. When the tip of the glans is manipulated by the finger and thumb of the surgeon, the sclerosed mass of the chancre is distinctly felt as though it were a cylindriform mass, no larger than the stem of a common clay pipe, and scarcely as long as a digital phalanx and substituted for the normal urethral channel. The incessant irritation at last produces scarcely so much ulceration as it does a deeply-seated erosive action, which results in reaming out the meatus urinarius. When all is healed the apex of the truncated cone, represented by the tip of the glans, is seen to be lost. The acorn-shaped body is destitute of its delicately-finished tip. It has an obtuse or blunt apex; and the perfect accuracy of adaptation of the lips of the meatus is forever lost. Instead, there is an odd-looking funnel-shaped gap of the mouth of the conduit, with the flaring end of the funnel directed toward the eye of the observer. This, too, in my experience is produced only by the syphilitic chancre. The gangrenous or deeply ulcerating chancroid will mutilate the glans in the most lawless manner, remove one-half or more, or even the whole of the organ, in the most irregular way, will gouge out one side or the other, and leave the urethral orifice as a chasm where once the frenum stretched its slender arm for the suspension of the scrotum. But almost never will the process cease with the delicate reaming described. Cicatrices in the groin of one or both sides have no significance for most cases, as regards the diagnosis of syphilis.

It is the diagnostic importance of stigmata like these that makes them especially interesting. Let us glance for a moment at a few pictures drawn, like the silhouettes of the artist rather than in the serious style of the time-honored "reports of cases," each of which without much detail may illustrate to a degree some point to which our attention has been already attracted. Each has this merit at least, that it is drawn directly from practical experience, and represents a serious fact in pathology.

1. A healthy-looking young widow, with a history of eczema of the left elbow one year before, has an infiltrated patch upon one naris threatening the integrity of the whole organ, from which she has suffered for months, and which has been pronounced lupus by four physicians of acknowledged repute. One of them has administered an anesthetic and thoroughly scraped the lesion, without benefit. The physician last consulted insists on a careful examination of the elbow where the so-called eczema was located the year before, and he recognized at a glance typical multiple and bean sized cicatrices grouped in a circle, with two outlying "satellites." He thus fortifies the correct diagnosis of the nose-lesion, and, after administration of appropriate remedies, the nose is healed in a month, the sole deformity resulting from the abortive scraping.

2. A ruddy-faced merchant in middle life, the father of healthy-looking and wholesome children, lies in bed suffering from atrocious retro-sternal pains that have lasted for a week, and for which he is vainly treated by two physicians, both believing that the pleura is seriously involved. The patient becomes hourly worse, and describes his pains with an eloquence that in itself is suggestive. A consultant, being summoned, makes a more careful examination of the person and recognizes a decolorized, circular, and typical cicatrix, reported to be twelve years old, over the left thigh. It is of the large single pattern, unattached, smooth, and free from ribs and puckerings. Diagnosis is made of a retro-sternal gumma, which is properly resolved, the pain subsiding in three days under efficient doses of the salts of iodine.

3. A gray-haired lady of social position, sixty-five years of age, widowed for fifteen years, is a helpless wreck, unable to use hands or feet, wheeled about in a chair by her maid; she has had an elevator built in her home to enable her to visit her dining-room with her children. She had been treated without avail by many physicians for ten years, and then, growing steadily worse, she abandoned hope and settled herself in her chair, anxious, during her remaining years to brighten with her mental qualities the domestic atmosphere in which she lives with her two sons. The morbid condition of the nervous centers has resulted in distorting the fingers so that they are curiously twisted into the palms, and the toes are similarly affected. Spurious ankylosis has rendered the larger joints useless. At the last a physician is summoned for relief of the annoyance caused by a successive shedding of one or two of the finger-nails, and he is sufficiently interested to explore the case thoroughly and in all its details from the beginning. He discovers two typical cicatrices on the inner faces of the tibia, wholly decolorized, which plainly declare that the entire train of symptoms began with luetic infection by the husband twenty years previously, with serious results, as respects the nervous centers, all of which might have been averted by an appropriate therapy at an earlier date. Under the treatment now pursued the nails are no longer shed, and some use of the fingers is regained.

4. A California superintendent of mines, vigorous of constitution and brawny of limb, comes to the city for the purpose of having an epithelioma removed from his upper lip. The date is fixed for the operation, but the day before that date he chances to consult another physician than the one selected for the operation, in order to verify the diagnosis. The patient is now stripped, and after examining the

whole body, as well as the lip, with care, there is discovered a scar over the elbow, in consequence of which the operation is deferred a fortnight. The result is that the lip is healed without resorting to the knife.

5. A young and childless wife, of fair nutrition and good general health, consults her physician for an egg-sized tumor which has slowly formed in the mass of the right breast during the preceding six months. She is naturally greatly alarmed lest she be the victim of carcinoma. An examination is made with care, the result being that two or three firm subcutaneous marble-sized nodules are recognized near the left elbow, where there is also a group of pea-shaped cicatrices that indicate an infectious disorder. The gumma of the breast is made to disappear after appropriate internal and external treatment.

6. A middle-aged dentist is in his bed and supposed to be dying, his wife, mother-in-law, and other relations weeping over him. His physician has been faithful in attendance for three weeks, but the patient, in spite of all treatment, has grown steadily worse. He lies supinely, breathing slowly, and is insensible, and incapable of performing the acts of deglutition; the pupils are dilated. By tickling the soles of the feet certain reflex movements can be excited. The temperature is not abnormal. The pulse is somewhat accelerated. A consultant, after securing details of the history of the case, strips and examines the body with special care. A reamed-out, funnel-shaped meatus urinarius is discovered, with the result that a tenth of a grain of calomel is placed every hour on the tongue of the man supposed to be dying, and in three months he goes to Europe for the restoration of his health, and in two years is the father of a handsome baby.

7. A well-developed young Englishman, twenty-five years old, whose case has been pronounced lupus by half a dozen of the most eminent physicians of Great Britain, including the consultants of some of the largest London hospitals, applies to a competent surgeon for the amputation of his right arm. The limb is so tumid, distorted, and clumsy, and its fingers are so twisted and misshapen as to render the member worse than useless. It is actually so much in the way as to encumber him in the work he is yet capable of doing with the sound arm of the other side.

The surgeon, before deciding upon the proper course, consults with a diagnostician. The latter strips his patient and examines him from head to foot with scrupulous care. He discovers upon the posterior surface of the left thigh a dinner-plate-sized circular scar, with pigment not yet wholly removed from the center, and some odd-looking crusted lesions at the periphery of the circle. The man is vigorously treated for gummatous infiltration of the offending limb, with the result of rapidly reducing it in size to a point where amputation is not even considered.

Illustrations of this sort might be multiplied almost indefinitely. They indicate with clearness that there is scarcely any problem presented in any department of medicine or surgery which may not be solved by a discovery of one or more of the stigmata to which we are now directing attention.

Perhaps it will be more useful, in the time that remains, instead of noting the points of differential diagnosis between the scars of syphilis and those of other diseases, to glance briefly at some of the characteristics of the persistent stigmata likely to be confounded with those we have been studying.

The scars of herpes zoster (shingles), whether on the face or body, proclaim themselves to be such, almost at the first glance, by the rule of their symmetry. This rule is almost never violated save when we have zoster of the region supplied by the fifth nerve, and this is such a curiosity that very few even of experts have seen it. The cicatrices (which do not result in all cases) are so distinctly arranged along the lines of distribution of the nerves of one side of the body that one can scarcely confuse the groups of indented scars, each suggesting that it had been made by some such instrument as a carpenter's nail-set, with the irregularly packed and less defined, as also less deeply depressed and symmetrical scars of smallpox. In shingles of the region supplied by the supra-orbital nerve there are in some cases not merely persistent relics of the disease in the skin, but traces of damage inflicted upon the eye in the form of corneal opacities, and even destructive changes in the deeper structures of the globe.

Looking, then, at the three prominent disorders producing cicatrization of the skin of the face, we have: Smallpox—its scars almost invariably symmetrical and general; those of zoster, almost without exception symmetrical and never general, but always in the areas of distribution of the facial nerves; and those of syphilis, sometimes symmetrical and sometimes not, but never distinctly limited to areas of nerve-distribution, and, whether occurring on one or both sides of the face, selecting (as the other diseases named never do) the regions near the corners of the lips and lids, and the upper in preference to the lower portions of the face. In any event, if few or single, and in one region only, they represent a diversion from type rarely encountered in the other diseases here named for the sake of contrast.

The scars of obstinate, persistent, and vanished facial acne are often general and symmetrical, but never of the defined and deeply-set character of those of variola, syphilis, or zoster. They are, moreover, distinguished in all severe forms by the peculiar keloid-like ridges into which several of them are converted. The puckered, elevated, corded, and ribbed irregularities of either cicatrices or the tissues between the latter, are well-nigh pathognomonic. In case of doubt it may be well to remember as to these pictures of an ancient, rebellious, and ill-

treated acne, that when the inflammatory processes have all ceased and there are left only stigmata upon the field where the battle was once fought, there is almost, without fail, a similar picture presented upon one portion or another of the dorsum of the chest, where also, usually, the keloidal complication is seen to best advantage in exaggerated forms.

The scars of lupus need never be confused with any of those thus far considered. In lupus vulgaris the cicatrix always possesses a distinguishing absence of special peculiarities. It is by this that it is best known. Mr. Jonathan Hutchinson was once pleased to describe syphilis as an "imitator" of other diseases. Lupus vulgaris may be said to imitate nothing, not even itself! The scars left in this day, when lupus is in so many cases satisfactorily managed by modern methods, is really the scar produced by the treatment of the malady. The processes of erasion by the sharp spoon, of destruction by the Paquelin knife, by caustics, by scarification, or by the later chemical combination of salicylic acid and creasote, leave cicatrices of all sorts, marked by their exceeding irregularity. In almost all cases these are wonderfully smoothed away in the course of time as the young girls, who constitute the majority of patients thus afflicted, advance to the maturer life of womanhood. It is, indeed, remarkable that, in a decade after a nose has been half eraded or wasted, if there be actual arrest of the disease the deformity is to such a degree hidden by well-rounded, even well-tinted cheeks, and the comeliness of the unaffected portions of the face. For other cases there are only the most irregular and deforming stigmata, scars more disfiguring than those of severe burns, everted or contracted lids, noses reduced to absurd miniatures of their former selves, or moulded into the familiar pattern of the parrot's beak, with the tip carried down toward the upper lip, and the nares on either side wasted as if carved into the lateral cavities by the chisel of a caricaturist! The same may be said of the ear, which has been fastened to the cheek or reduced to a mimic and mutilated image of the organ in health. Fingers, toes, and hands undergo similar changes, with deformities defying description, comparable only to the frightful ravages of lepra. In all this we find no law; only a lawlessness that attracts our attention to the very fact of its defiance of restriction.

In lupus erythematosus, more particularly of the face, in which cicatrices are most often observed, the result is far different. Here we have an aid to diagnosis, the special configuration of the patches of the disease producing the characteristic "butterfly's wing" appearance, the scar representing the body of the insect stretching along the bridge of the nose, while the scars corresponding to the wings are spread over the cheeks, one on either side. Here the scar is superficial, well defined, at times symmetrical, decidedly preferring the nose and adjacent parts of the cheeks, but involving also the lids, the lips, the ears, and the scalp. When the disease is at an end the scar is thin, whitish, very slightly depressed, very definitely outlined, and at times looks as if it had been picked out with the engraver's tool—that is, pointed here and there over its surface; each of these points probably representing the orifice of the excretory duct of a sebaceous gland. The scars are often very delicately finished, and especially on the hands and fingers may at times be represented by delicate, whitish cords, linear in shape, and, as to length, relatively short.

Upon the lower extremities the cicatrices representing ulceration due to varicosities of vessels, and often an accompanying eczema, may be as deeply pigmented as any of the relics of syphilis in the same region. Indeed, in well-marked cases the deep chocolate-brown staining is in the former instances more distinct. But, if closely scanned, one can recognize in the non-specific cases an indefiniteness of outline at one point or another, while the typical syphilitic cicatrix already described is wholly absent. In making a differential diagnosis it should always be remembered that with the lapse of time the eczematous and varicose conditions, as a rule, present the portraits of more severe damage than the syphilitic lesions; because, however deep and grave the gummatous ulcer, it is, in the course of time, so exquisitely smoothed away that its traces are superficial, wholly decolorized, and non-attached. On the other hand, the formidable-looking ravages in the lower limbs, marked by extensive and irregular scarring, by much more persistent and deep pigmentation, by attachment of cicatrices to the deeper structures, and, especially, by the varices of vessels in the neighborhood, are generally of non-specific origin.

There are very rarely seen on the lower limbs, or the surface of the thighs more often than of the legs, one or several lesions looking like scars, which are not such, and which are often erroneously interpreted by those who are not expert in the recognition of cutaneous stigmata. These are the odd and interesting discs of morphea, named, according to the teachings of a later pathology, "circumscribed scleroderma." When perfectly typical, these atrophic, scar-like, dead-white, ivory-white discs, rarely larger than the half-section of a hen's egg, have a very distinct contour, bordered with a violet-tinted zone. When examined closely, this belt is seen to be constituted of a delicate plexus of minute vessels. This zone is rarely more than a line or two in width. The surface is either smooth and on the level, or

at times even slightly elevated above the level of the surrounding integument, with occasional punctate marking over the patch. When, as in the case selected for illustration, there are several such patches, they are seen arranged in the line of the long axis of the limb and according to the distribution of the nerves. They are usually unilateral, and may be seen upon the head, the face, and elsewhere, though more rarely even than on the lower limbs. The non-attachment of the diseased patch to the substructure of the integument, the general absence of hairs and of secretion, and the occasional coloration of the patches, which in the end may be markedly depressed below the general level, increase their resemblance to scars. They may not, however, in all cases prove to be persistent stigmata, as they occasionally disappear spontaneously or under treatment. In some cases the attachment to the deeper structures is conspicuous and disfiguring.

Allied to these curious patches are the striæ, and even lesions of circular outline, which are recognized as simply linear and macular atrophies of the skin. The lines observed upon the abdomen of women after pregnancy are of this particular order; and it is interesting to note that in rare cases they may be seen fully as conspicuous on the abdominal surface of the healthy adult male subject who has never suffered abdominal distention from disease.

The white patches of vitiligo, or leukoderma, as the disease is termed by some authors, are so well known that the merest reference to them is here needed. They occur as rounded, oval, or irregularly curved patches, one or many in number, with the pigment wholly removed from the disc, which is left of a dead-white color, as are also the hairs which chance to grow upon the affected part, the pigment being heaped up in excess about the convex circles limiting the edges of each. These may develop upon any part of the body and at all times, and slowly spread by multiplication and coalescence till a large part of the bodily surface is successively whitened, as in the piebald negro, whose skin, in exceptional cases, becomes well-nigh dead-white. The chief reason for naming these lesions in this connection is to call attention to the striking fact that they are actually among the persistent stigmata of the skin. They are usually most conspicuous in summer, it is true, partly on account of the change occurring in the pigment of the border under the influence of heat and sweating. Occasionally the reverse is true, that they are most conspicuous in winter, and least so in the heated term. But, as a matter of fact, the bleached patches never acquire the pigment they have once lost. If there be any method of reawakening the mysterious forces by which pigment is produced in the patches whence it has once been removed, certainly none is known to science in our day. A knowledge of this fact may save much disappointment to those patients who may still be found making local applications to vitiliginous patches in the vain hope of restoring the natural color, or, what may be justly described as worse, who are swallowing drugs in the delusive hope that they may compass the same end.

Gentlemen of the Society, I close with an expression of regret that I have been able to touch at such few points and so imperfectly, the vast, important, and interesting field suggested by my theme. I shall be well content if, by these fragmentary remarks, I have attracted attention to any part of it. If a visitor from another planet than ours, interested in our scientific methods, were to question one of us on the subject of these stigmata, I can imagine him saying: "As the internal organs of the body are all hidden from view within its living envelope, I suppose that most of your physicians are better acquainted with the diseases that are betrayed on the exterior than with those that affect the viscera, such as, for example, the lungs, the liver, the heart, the kidneys, or the bladder." Imagine his surprise on hearing the response: "You are quite in error. The average physician on this planet we call the earth will frankly admit to you that he knows a great deal more of the disorders of internal organs than of those betrayed in the surface-markings of disease that are spread before his eyes."

TRAUMATIC LESIONS OF THE SPINAL CORD.[1]

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INJURY to the cord, resulting from external violence, is of rather more frequent occurrence than would be expected if we consider how well protected the cord is. The peculiar construction of the vertebral canal, the strength of the individual vertebræ, the very perfect and extensive articulations with each other, the elastic intervertebral discs separating the segments, and the various ligaments binding the parts together, require a high degree of violence to produce either dislocation or fracture. Added to this the spinal canal is much larger than its contained cord, and the latter is consequently not in direct contact with the bony walls, but is suspended from above, and steadied laterally by ligaments and emerging nerves.

The most common form of injury to the cord is that which results from fracture of the vertebræ. This accident occurs as the result of a general crush, as by a fall of coal in a mine, or of earth or stone in a tunnel or quarry; also by external violence applied at

[1] Read before the Clinical Society of Maryland, December 16, 1892.

one point, as when a man is caught between cars. Not an uncommon cause is a fall, which may cause fracture of the vertebræ either directly, as when an individual falls flat upon the back, or indirectly from striking upon the head or feet, the force of the fall being felt most strongly at certain points along the vertebral column. Extreme flexion of the body, or twists, may produce dislocation or even fracture. Gunshot wounds involving the vertebræ, while not very common in civil, are often met with in military practice.

As a result of these and similar injuries to the bony structures, the cord may be compressed, more or less lacerated, or entirely destroyed. Compression may be occasioned either by the broken bone impinging directly upon the cord in the shape of a fragment or spicule, or by a narrowing of the canal. The points at which fracture is most likely to occur are the cervical and lower dorsal regions, unfortunately the very points where the cord can least afford interference with its function. Compression of the cord may result from hemorrhage within the spinal canal, due to rupture of the spinal veins. Finally, when the cord itself is not injured, the meninges may be torn and the cord suffer secondarily.

In addition to the class of cases already referred to must be added those cases in which, without any fracture or dislocation of the vertebræ, the cord suffers more or less severely. Concussion of the *spine*, or *railway spine*, as this condition is wrongly called, has occasioned a good deal of rather acrimonious debate, largely due to the fact that the subject has been so often in the courts. While concussion of the cord is infinitely less common than concussion of the brain, it undoubtedly does occur, and we may have all grades of injury, from a mere temporary suspension of function up to a considerable degree of laceration, without fracture of the vertebræ.

The symptomatology of injury of the cord is coextensive with the functions of the cord, as any part of the latter may be involved. As far as location goes, we need consider only the cervical enlargement, the mid-dorsal region, and the lumbar enlargement.

In the cervical and lumbar regions are situated the important centers for the muscles of the upper and lower extremities and for the thoracic and abdominal viscera, and entering these portions of the cord are the sensory nerves from the extremities. Injury may therefore involve the nerve-centers or cells, or the white matter alone. In the dorsal region the gray matter sinks into insignificance, and we are concerned mainly with the extent of the involvement of the white matter or fiber-tracts in their passage to and from the brain.

The symptoms of injury to the cord may be divided into primary and secondary. By primary symptoms are meant those that appear suddenly, as the immediate result of the injury—such, for example, as paraplegia. By secondary symptoms are meant those that come on at a later period in the form of degeneration of fiber and cell; this class is illustrated by the various muscular atrophies and trophic lesions generally. In discussing briefly the primary symptoms of injury to the cord, it is necessary first to note those symptoms of a general nature and not dependent upon the location of the injury, and then the special symptoms that depend upon the region involved and the extent of such involvement.

The general symptoms of injury to the cord are few. Shock is present to a greater or less degree, sometimes being marked after slight injuries, and at other times present only to a slight degree, though the injury may have been severe. Consciousness is rarely lost, even in cases proving rapidly fatal. Of particular interest is the rise of temperature, noted especially in injury to the cervical cord, and, in lesser degree, in injuries in the lower dorsal and lumbar regions. No very satisfactory explanation of this phenomenon can be given. If it were met with only after injury to the cervical cord it might be explained on the ground of interference with the heat centers, supposed by some physiologists to be located in that region; but as injury at any level may produce rise of temperature, we must conclude that this is due to interference with the fiber-tracts connected with the heat-regulating centers. Varying degrees of pain may be present, depending upon the location and extent of the injury and the involvement of nerve-roots. Priapism is a common symptom, especially in injuries to the cervical cord. Rosenthal mentions a case of injury to the cervical cord in which the priapism lasted for seven days during life and for thirty-six hours after death.

In discussing the special symptoms, it is important to bear in mind the fact that we may have all grades of injury, and consequently the intensity of the motor and sensory symptoms will vary accordingly. Again, the cord may be involved to a greater degree on one side than on the other, causing a difference in the symptoms of the two sides. When the middle of the cervical enlargement is involved, somewhere about the sixth or seventh cervical vertebra, there is loss of motion in all parts below the level of the lesion, and of sensation over the inner half of the arm and forearm and all below this level. The temperature is always notably raised, the pupils are contracted, and the breathing is diaphragmatic. Lesions high up in the cervical region cause loss of motion and sensation from the neck down, interfere seriously

with respiration, and are usually rapidly fatal. The two following cases illustrate very well the symptoms of injury to the cervical cord: the first case is one of injury to the upper part of the cervical region; the second, of injury about the mid-cervical region.

CASE I.—A male, aged twenty-four, gave a history of having plunged head first into shallow water. When admitted into the hospital, some ten or twelve hours after the accident, examination showed no signs of injury to the head. The head was somewhat retracted and any movement of it caused intense pain. All four extremities were paralyzed, the lower completely, the upper being capable of some slight movement. Sensation was lost from the neck down. Breathing was purely diaphragmatic. The patellar reflex was present, and the pupils were contracted to pin-points. The temperature was 104° F. The mind was perfectly clear. There was priapism and loss of control over the bladder and rectum. Death occurred on the evening of the day he was admitted into the hospital, which was the day following the reception of the injury. The temperature, taken in the rectum four hours after death, was 110° F. The autopsy revealed a fracture of the fifth cervical vertebra. The cord showed laceration at the point of fracture, with extravasation of blood extending about an inch vertically.

CASE II.—A male, aged thirty-seven, fell about forty feet upon a rough, irregular surface. Examination shortly after the accident showed a lacerated wound of the scalp, but no fracture of the skull. He was perfectly conscious. There was complete paralysis of the lower extremities and partial paralysis of the upper. Sensation was entirely lost from the level of the third rib down, and impaired over the chest and arms. Respiration was diaphragmatic. Priapism was marked. There was paralysis of the bladder and rectum. The pupils were finely contracted. The temperature, 103° F. an hour after admission, reached 109° F. just before death, which took place the day following the reception of the injury.

At the autopsy it was seen that the laminæ of the fourth and fifth cervical vertebræ were fractured on both sides; the dura was slit longitudinally and there was an extra-dural hemorrhage posteriorly. The cord opposite the fracture showed hemorrhage and disintegration of its substance.

Lesions in the mid-dorsal region, if complete, cause loss of motion and sensation below the seat of injury. If the lesion be high enough, the arms may be slightly affected both as to motion and sensation, thus approximating the symptoms detailed. When the lesion is only partial, the differences between dorsal lesions on the one hand and cervical or lumbar on the other, become much more apparent. This is very obvious if we consider that in the dorsal cord the gray matter and consequently the centers are very insignificant, the white matter or fibers composing almost the entire cord between the cervical and lumbar enlargements.

A lesion in the lumbar region, involving the lumbar enlargement, causes loss of motion and sensation in all parts below, loss of control over the bladder and rectum, and loss of the superficial and deep reflexes. It must be understood, of course, that the symptoms here detailed are only the immediate ones; the secondary symptoms, such as atrophy and the like, will be mentioned under the head of secondary symptoms. The following cases may be mentioned as illustrative:

CASE III.—A male, aged twenty-three, was crushed by a bank of earth falling upon him. There was no external injury of note. There was entire loss of motion and sensation below the level of the first lumbar vertebra, and loss of control over the bladder and rectum. There was no loss of consciousness at any time. The superficial and deep reflexes were abolished. The temperature on the day of admission to hospital, which was the day of the injury, was 102° F.; it remained at this point for five days, then sank to normal and did not rise again until just prior to death. Bedsores of a trophic nature developed in the gluteal region, and cystitis was also a later complication. The patient was admitted March 26th, and died rather unexpectedly May 15th. The autopsy showed that the last dorsal and first lumbar vertebræ were crushed and dislocated forward, compressing the cord and reducing it to an almost empty sheath.

CASE IV.—A male, aged fifty-two, fell nine or ten feet into the hold of a vessel, striking upon his back and side. There was no loss of consciousness and very little pain, but there was instant paralysis of the lower extremities. Examination showed a scalp-wound, but no fracture of the skull. There was a marked projection of the tenth dorsal vertebra. There was total loss of power in the lower extremities and loss of sensation below the umbilicus.

Bladder and rectum were both paralyzed. Cystitis, together with bedsores of a trophic nature, developed, and the patient died September 10th, having been admitted August 25th. The autopsy revealed a fracture of the tenth dorsal vertebra, greatly compressing and crushing the cord.

Injury to the *conus medullaris* causes paralysis of the bladder and rectum and anesthesia in the gluteal region. Such cases are not very common. The symptoms detailed and cases related are applicable only to total or nearly total transver e lesions, conditions in which the functions of the cord at the level of the injury are entirely abolished. It often happens, however, that the injury does not involve the entire thickness of the cord. In this latter case the symptoms present wide variations. Sensation may be greatly or very slightly affected, and all grades of paralysis may exist. A partial lesion in the mid-dorsal region may not involve the sensory conducting-fibers to any appreciable extent, and the lower centers, as those for the bladder and rectum, may be intact. Motion in such a case as

this would be interfered with to a moderate degree only, or more or less entirely lost.

We may have one lateral half of the cord interfered with, giving Brown-Séquard paralysis: motion lost on the side of the lesion, sensation on the opposite side. In the cases in which the lesion does not involve the entire thickness of the cord, the patellar reflex is as a rule greatly exaggerated, unless the lesion be in the lumbar enlargement, when, of course, the knee-jerk is lost, because the center is involved and the reflex arc is broken. In those cases in which the cord is entirely severed, even though the lesion is in the cervical or dorsal region, the patellar reflex, as Bastian has pointed out, is lost and we have a flaccid paralysis. A case recently under my care showed the curious combination of entire loss of motion and sensation in the lower extremities, with greatly exaggerated reflexes and ankle clonus. The only explanation of such symptoms that can be given is that the cord was involved in almost its entire thickness, having intact only a few white fiber-tracts, probably the direct cerebellar columns. It must be borne in mind that occasionally the nerve-roots only are involved, without any injury to the cord: the local nature of the symptoms renders the diagnosis easy, as a rule.

In considering the cases in which only moderate injury is done to the cord, a question of great interest arises, namely: To what extent may the cord be injured by blows, falls, and the like, which do not cause fracture or dislocation of the vertebræ? We may, I think, have three varieties of cord-injury resulting from external violence which has not been sufficiently great to cause any rupture of the bony parts: laceration to a moderate degree, compression from hemorrhage due to rupture of the spinal veins, and finally, a general disturbance of nutrition, without any immediate alteration of structure or marked symptoms, the condition known as concussion proper. The following case will illustrate the first variety, or moderate laceration without any fracture or dislocation of the vertebræ:

CASE V.—A female, aged twenty-two, on July 25th fell through a skylight to the floor beneath, a distance of fourteen feet. There was no loss of consciousness and but little shock. Examination showed a bruised and somewhat tender spot in the lumbar region, but no evidence of fracture or dislocation.

The temperature was normal, as also were the pupillary reflexes. There was complete paralysis of the lower extremities and of the bladder and rectum. The deep and superficial reflexes, from the waist down, were abolished. There was anesthesia of the gluteal region and of nearly all the surface of the lower extremities. The patient has slowly improved, and at present, nearly six months after the injury, has recovered to some extent the use of her right leg. The left leg is still nearly powerless, and shows marked foot-drop, and only partial return of sensibility. The reflexes are very feeble.

The second variety of compression by intra-spinal hemorrhage without fracture is interesting, and has been confirmed by surgical operations for the relief of the pressure occasioned by the hemorrhage; the bleeding generally is found to come from the rupture of the spinal veins. The following case might perhaps be included in this category.

CASE VI.—A male, aged sixty-two, was crushed in an elevator. Several ribs were broken, but no distinct fracture of the vertebræ could be made out. There was no displacement of the vertebræ. There was almost total loss of motion in the lower extremities, with anesthesia extending to the crests of the ilia, and above this a very sharply-defined band of hyperesthesia. There was no elevation of temperature. The patellar reflex was abolished; the bladder was not paralyzed. Examination on the following day showed that the hyperesthesia had disappeared, and in a few days motion and sensation began to return and the patient was discharged cured at the expiration of two weeks. The deep reflexes had not returned when the patient left the hospital.

The third variety of injury to the cord, without fracture of the vertebræ, or any evidence of gross lesion, is that condition known as concussion of the spine. The limits of this paper do not permit any discussion of this interesting part of the general subject of injury to the cord. Ever since the appearance of Erichsen's notable paper, there have been bitter discussions in regard to the existence of such a condition. Unfortunately, the battle-grounds have been oftener in the courts than in the medical societies.

While a certain proportion of the cases of "railway spine" are fraudulent, or at least imaginary, and the symptoms stimulated by prospective "damages," there can be no doubt of the genuineness of many cases. Nor is the probable pathology hard to conceive. As we have seen, the cord may be injured severely by a blow or a fall that does not cause fracture or displacement of the vertebræ. Now, it would seem not improbable that a severe fall might seriously disturb the nutrition of certain parts of the cord, causing injury much less in degree than laceration or hemorrhage, which have already been considered.

As the result of a concussion, there might be sufficient injury done to the gray matter to initiate a degenerative process in the cellular structure, and, as a consequence, muscular weakness and atrophy in the parts depending for their innervation and trophic influence upon the cells in question.

Again, if the fiber tracts be even slightly injured, a myelitis may result and cause a more or less widespread secondary degeneration. Suppose an injury,

to the posterior part of the cord, by a fall, blow, or twist; the immediate effects of such an injury may not be at all marked, yet if there has been decided damage done to the fiber-tracts there will be an upward degeneration of the posterior columns, or the pathologic lesion of tabes dorsalis. The specimen shown of Case II. very beautifully illustrates this point. The injury to the cord was in the lumbar region, and the cervical cord shows most marked degeneration of the posterior colums, as can be seen from the section exhibited. This very marked degeneration has taken place in two months. In like manner we may have degeneration of the lateral, the direct cerebellar columns, etc.

It is, I think, quite possible that we have underestimated the importance of traumatism, in searching for some satisfactory etiology of the chronic system-degenerations or scleroses of the spinal cord. As a matter of fact, we have reports of cases pointing clearly to traumatism as their starting-point, and it is a common observation that an apparently trivial accident will often hasten and develop a case of incipient sclerosis.

The foregoing remarks sufficiently illustrate the nature of the changes of a secondary character that take place in the cord. As a result of these secondary degenerations, we have muscular atrophy, contractures, bedsores, cystitis, and like symptoms. Cystitis is especially troublesome and very commonly leads to secondary kidney-changes.

The diagnosis of these cases is not generally difficult, but, as Gray has suggested, it is always well to write out carefully all the symptoms, so that we may compare them with the tables given in the books and express the limits of the involvement of the cord in terms of the vertebræ.

The question of treatment in these cases of traumatic injury of the cord is an exceedingly difficult one to determine. As we know, we can expect little from medicine. Rest, counter-irritation, electricity, gold and silver salts, mercury, arsenic, and many other therapeutic agents are employed, but it is very questionable whether any of them influence in any degree the morbid processes. Undoubtedly, some cases do recover, but everything probably depends upon the degree of injury and the subsidence of the compression. The prognosis in those cases in which the cord is crushed and its whole substance destroyed is, if treated medically, absolutely hopeless. Such cases either die at once, or drag out a miserable existence through a few months and die of exhaustion from bedsores or secondary kidney-changes set up by the almost inevitable cystitis.

All we can do is to nourish the patient, to keep the bladder washed out, and to minimize as far as possible the evil effect of the bedsores, which nearly always occur, in spite of the most scrupulous care, and which, in most cases, must be regarded as trophic lesions. Such being the gloomy outlook in the medical treatment of these cases, we naturally turn to surgery.

It is out of place in this paper to discuss this part of the subject, but a few considerations as to the class of cases suitable for operation may be permitted. There is hardly any question about the propriety of operating when we have cases in which there are marked signs of compression, without evidence of total destruction of the cord. The main points to be regarded in making the differential diagnosis between partial and total destruction of the cord have already been considered. A considerable number of cases successfully operated upon attest the correctness of this position. If the compressing agency be removed early, the cord may recover in great part, but if operation is long delayed, secondary degeneration is likely to set in and interference to be rendered useless.

In those cases in which there is total destruction of the cord, most neurologists advise strongly against any operation as useless. It has always seemed to me that, in view of the fact that these cases practically always prove fatal under medical treatment, we should not advise against what would seem to be a natural surgical procedure. We have broken bone, crushing and compressing the cord, and the most natural thing would be to clear away the débris and give a chance to whatever bit of cord there might be left uninjured. Observations in a number of autopsies of cases that presented all the symptoms of complete crush of the cord have convinced me that it is rare to see the cord entirely destroyed by the traumatism, and in a considerable proportion of these cases there was distinct evidence that part of the damage was due to secondary inflammatory processes. Operative procedure offers not merely the best chance, but in nearly all of these cases the *only* chance, and if properly carried out does not materially add to the gravity of the prognosis, even if it accomplishes nothing. Abbe's brilliant work upon the cord, while as yet rather barren of results, is full of suggestion. As has been already noted, an operation, to be of any avail, must be done early. We should allow only time enough to make it certain that the symptoms are not due to shock or temporary interference with function. I know of no class of cases that more strongly appeal to me than these cases of injury to the cord, for I always feel instinctively that something ought to be done for them, and I am confident that the surgery of the future will make this possible.

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PULMONARY ATELECTASIS AS A CAUSE OF ANEMIA.

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IN this paper I shall discuss anemia, not as a substantive, but as a symptomatic affection. I have referred elsewhere[1] to cases of anemia occurring in individuals, the examination of whose lungs showed insufficient distention or atelectasis. Since then, my observations have been supplemented by accurate blood-measurements, which enable me to assert positively that atelectasis of the lungs is a frequent factor in the etiology of anemia. Atelectasis, or collapse of the lung, is often encountered as a physiologic condition, and I have adverted to it in my *Manual of Clinical Diagnosis*[2] as follows:

"Remembering that the tidal or breathing volume of the air amounts to only 33 cubic inches, and the complemental air, which is the air taken into the lungs by forced breathing, in addition to the tidal volume, amounts to 100 cubic inches, and knowing that the average respiratory capacity of an adult is about 225 cubic inches, the conclusion is evident, that even in a state of health the lungs are imperfectly aërated, and in a condition of *physiological atelectasis*.

"My invariable custom before conducting an examination of the lungs is to have the patient make repeated forced inspirations. In this way I avoid many errors in auscultation and percussion."

I have particularized this matter for the reason that I have failed to find similar detailed reference to physiologic atelectasis in our text-books on diagnosis. I can recall a number of cases in which an examination of the lungs revealed dulness at one or both apices, and in which an unfavorable prognosis was given, in accordance with the physical examination. I can also testify with chagrin that these very cases, which I consider so unfavorable, continued well, despite my inauspicious prognostications. These errors in diagnosis are examples of similar errors made by other physicians, and which will continue to be made until pulmonary atelectasis is recognized as a physiologic condition. I have repeatedly demonstrated patients to my classes in physical diagnosis who showed not only circumscribed dulness of the apices or borders of the lungs, but even, in fact, dulness of an entire lung; and it was shown in these cases how, after repeated forced inspirations, dulness was supplanted by resonance. These cases were not recruited from bedridden individuals, in whom such a condition might be expected, but from ambulatory patients. There is no individual, however resonant his lungs on percussion, who cannot render them more resonant after repeated deep inspirations. If atelectasis is found as a physiologic condition in robust individuals, how much more frequent it must be in those individuals with incomplete thoracic development, who forego all hygienic influences which tend to promote proper respiratory activity.

The occurrence of anemia, with its concomitant symptoms in pulmonary atelectasis, is not accidental, but almost constant. The blood is a definite living tissue whose chemical composition is almost constant. By means of the blood the constituent elements of the body are furnished with the nutrient substances and the oxygen they require; both are derived from without, the former from the alimentary tract, the latter through the lungs. The entrance of oxygen into the blood is necessarily influenced by the vascular area exposed to the air, which in pulmonary atelectasis is, of course, diminished. The excretion of carbonic acid from the blood must for the same reason be interfered with. Then, again, the excretion of organic matter during expiration is interfered with, the accumulation of which in the blood conduces to auto-intoxication.

The symptom-complex of individuals with collapse of the lung, based on an analysis of twenty-five cases, is as follows: Hemoglobin (estimated with Fleischl's hemometer) is reduced to 50 per cent., or lower; the red blood-corpuscles are diminished in number. The reduction of hemoglobin and in the number of red blood-corpuscles is proportional to the area of lung collapsed.

Fatigue on exertion, shortness of breath, palpitation of the heart, loss of appetite, and constipation, are the usual subjective symptoms.

On inspection, diminished movements of the thorax are noted. Percussion of the lungs shows diminished resonance throughout. The apices may show dulness on percussion, and circumscribed areas of dulness are often found in the interscapular regions, particularly on the right side. The upper lobe of the left lung, adjacent to the manubrium sterni, is a frequent seat of dulness.

Auscultation shows on quiet respiration an absence of respiratory sounds over the dull areas, while over the entire lung the respiratory murmur is enfeebled. When the patient is instructed to take deep inspirations, atelectatic crepitation is heard. The diagnosis is usually easy; repeated forced inspirations cause a disappearance of the dulness, and a reappearance of respiratory sounds. All of my cases showed almost immediate improvement after the inhalation of relatively compressed air by means of the pneumatic cabinet. The improvement in pulmonary atelectasis was phenomenally rapid, and occurred in some of the cases after three or four sittings. The color of the patients improved, the

[1] "Report of 163 Cases Treated by the Pneumatic Cabinet," Pacific Medical Journal, September, 1891.

[2] Abrams: Manual of Clinical Diagnosis, 1891.

percentage of hemoglobin and the number of red corpuscles increased, and the subjective symptoms of anemia disappeared.

If relapses occurred, and these were not infrequent, they were attributed in the main to neglect of lung-gymnastics, and a return to former modes of life. In a few cases nasal obstruction led to relapses. In this connection reference must be made to investigations of Holbrook Curtis,[1] who demonstrated that all patients with nasal stenosis are anemic, and after removal of the obstruction the cases were cured. In cases in which nasal obstruction cannot be removed, the simple expedient of having the patient breathe through the mouth may be adopted.

Although I have used the pneumatic cabinet for the treatment of pulmonary atelectasis, I am thoroughly convinced that no special apparatus is required if the patient is properly taught to make repeated voluntary forced inspirations.

In anemia of pulmonary origin the therapeutic action of chalybeates may be hastened by inhalations of oxygen. Oxygen is as essential an element of hemoglobin as iron. Sufficient oxygen for all practical purposes may be taken into the lungs, provided no atelectasis is present, and forced inhalations will prove of great value in the treatment of anemia, even when not of pulmonary origin.

Oxygen is now commonly used as a therapeutic agent in many diseases. The oxygen of the blood is chemically united with the iron, and is not subject to the law of absorption, and in consequence the exchange of gases between the blood of the air-vesicles occurs almost exclusively through the agency of chemical processes, and therefore independently of the diffusion of gases.

When pure oxygen is respired, the blood does not take up more oxygen than when atmospheric air is respired. Inhalations of oxygen, nevertheless, do good, and this good is effected, to my mind, not because pure oxygen is inhaled, but in consequence of repeated forced inspirations opening up normally collapsed lung-areas, and thus exposing a greater quantity of blood to the inhaled oxygen. The cachexia of individuals who suffer from cardiac valvular lesions is due largely to stasis in the lungs, the turgid vessels compressing the air-vesicles. It can be shown that the blood of these individuals contains less hemoglobin than normal, and that the hemoglobin increases when the collapsed lung is opened by voluntary forced inspirations.

I know of no more simple means of relieving the dyspnea of uncompensated valvular lesions under certain circumstances than by the inhalation of compressed air, the object being to dilate the collapsed areas of lung.

The following conclusions may be formulated:

1. Physiologic atelectasis of the lung is a frequent condition.

2. It may be readily diagnosticated by the presence of circumscribed areas of lung-dulness, which disappear after repeated forced inspirations.

3. Physiologic atelectasis of the lung is frequently associated with anemia.

4. In all cases of anemia of obscure origin, examination for physiologic atelectasis of the lung should be made.

5. Anemia due to physiologic atelectasis may be cured by inflation of the lungs.

6. Forced voluntary inspirations are an excellent substitute for inhalations of pure oxygen, and are of great value in the treatment of anemia from whatever cause.

[1] Journal of the American Medical Association, August 3, 1890.

ORIGINAL LECTURE.

ESOPHAGEAL STRICTURE AND GASTROSTOMY.[1]

BY ROSWELL PARK, A.M., M.D.,
PROFESSOR OF SURGERY, UNIVERSITY OF BUFFALO, N. Y.

THIS patient is a girl of eighteen upon whom, two or three years ago, I performed the operation of gastrostomy on account of esophageal stricture due to the swallowing of hot lye. At that time immediate operation was necessary, as the gradual contraction of the cicatricial tissue in the esophagus had progressed so far that even liquid nourishment could not be swallowed in quantities sufficient to support life. After a year or more I restored the patulousness of the esophagus by the electrolytic current and the passage of a sound, and then the opening into the stomach was closed. The most explicit directions were given as to the necessity of care in diet and of returning to the hospital to have the esophageal bougie passed often enough to prevent a return of the trouble. But, unfortunately, the girl is one of a considerable proportion of the population who are indifferent to the future and who lack perseverance. From sheer heedlessness she has twice allowed the esophagus to close, and twice we have dilated it again by means of sounds and the galvanic current. Every man who practises in a hospital has seen urethral strictures entirely overcome, has impressed on the patients as positively as he could the necessity of passing the sound occasionally to maintain the urethra in its restored patulousnenss, and yet has repeatedly seen such patients return with almost the original trouble, from neglect of the simple procedure of whose absolute necessity they had been warned.

This girl now returns with the request to have her stomach opened again, saying that she must work and cannot take time to go to a hospital or dispensary to have the bougie passed. She says, too, that she was more comfortable with the artificial opening in the stomach. While I may question her taste in the matter, I think that her own wishes, expressed positively and repeatedly, should be considered. I shall, therefore, reopen the stomach and allow her to return to the old *regimen*; and

[1] Delivered at the Buffalo General Hospital.

if, later, I can convince her of the propriety and desirability of keeping the esophagus patulous, and especially if she can be taught to pass the bougie herself, then it will be a simple matter to close the gastric fistula.

The operation in this case is an easy one. For years the stomach has been in contact with the abdominal wall and is firmly adherent to it. At the first operation of this sort, we have to open through the abdominal wall, find the stomach, draw it up to the wound and stitch it there, before opening into its cavity. Unless there is some emergency requiring haste, the completion of the operation is left until the next day, so as to allow peritoneal adhesions to form and thus prevent all possibility of leakage of chyme into the peritoneal cavity. In this case, the adhesions are already firm and nothing is required but an incision directly into the stomach and the insertion of the gastrostomy tube. We must distinguish between the words *gastrotomy* and *gastrostomy*. The former refers to an operation in which the stomach is opened and sewed up again immediately, as in removing a set of false teeth, a coin, or some other foreign body. By gastrostomy, we mean the establishment of a more or less permanent fistula. We have the same distinction between enterotomy and enterostomy.

The first time I operated to produce a gastric fistula was in the case of a woman with carcinoma of the esophagus, who was so weak that I was unwilling to give chloroform, and used cocaine—the first celiotomy ever done, at least in this country, under cocaine-anesthesia. Since then, I have repeated gastrostomy and have done two or three other celiotomies under cocaine. This girl is so hysterical that I prefer using chloroform in her case.

On the abdomen you see a scar, and in its center a star-like puckering which represents the original opening into the stomach. It is only necessary to cut through the scar, which bleeds very little, to reach the cavity of the stomach. The original operation has its little technicalities. The incision is made below and parallel with the left costal cartilages, beginning to the left of the linea alba; hemorrhage is controlled before opening the peritoneum and then the stomach is sought. Sometimes the colon presents, and I can imagine that the tenaculum might be hooked into it by mistake, but the difference between the two organs ought to be apparent. After drawing the stomach into the abdominal wound, it is held there by piercing it with a long, slender pin, like a hat-pin, which may be left *in situ* two days, and then the stomach-wall is at once sewed to the abdominal wall. For the second part of the operation, which, as I have told you, is usually postponed twenty-four hours or longer) no anesthetic, not even cocaine, is necessary, for the stomach is not provided with ordinary sensory nerves, and the incision occasions only a vague discomfort. This part of the operation may also be performed with the thermo-cautery. In gastrotomy for the removal of a foreign body, the stomach is drawn outside the abdomen and opened there so as to prevent the entrance of any of the stomach-contents into the peritoneum. The wound is then closed securely and the stomach dropped back, whereupon the abdominal wound is closed as in ovariotomy.

The wound here will be fitted with a tube having a shield like the collar of a stovepipe, to prevent its slipping into the stomach. It is to be held in place by a band about the body. The patient can wear a cork in the tube for the sake of cleanliness, and withdraw it whenever necessary to introduce food.

Two or three years ago Mr. Simons, of Guy's Hospital, devised a fairly practical way of introducing a tube into a constricted esophagus, to be retained for purposes of nutrition. His tube is analogous to the laryngeal tube of O'Dwyer, but, for anatomic reasons, it cannot be made of unyielding metal. You see here that it is a varnished silk and gum tube, funnel-shaped to prevent its slipping through the stricture into the stomach. It is worn for a few days, or weeks, until it becomes so far disintegrated as to necessitate removal. It is introduced by an obturator or universal handle, very much as the O'Dwyer tubes are inserted. A piece of strong silk ligature is attached, to facilitate removal. Probably no person, however enduring, would be able to have the silk hang from the mouth. Aside from the constant annoyance, it would be likely to be chewed off during eating, or unconsciously divided or swallowed during sleep. The thread is, therefore, drawn up through the pharynx and out of the nostril, and secured by a piece of adhesive plaster to the cheek. It may be necessary to remove such a tube after a day, or perhaps it may remain a month. It may be withdrawn and inspected and then reinserted. Solid food will not pass through such a tube, but strained broths, milk, porridge, etc., can be swallowed. The voluntary effort at swallowing is sufficient to carry the food to the point of stricture, and the presssure from above forces it down into the stomach. All such apparatus have their attendant disadvantages. Even a soft silk tube will cause more or less ulceration, and even dangerous hemorrhage may follow. The necessity for frequent removal of the tube is also a source of trouble and expense. The introduction of the tube involves additional danger. It is a simple thing to pass an esophageal probang in a healthy esophagus, but as soon as one reaches a stricture, the passage may become tortuous, or there may be ulceration on one side, and the instrument may be deflected from its proper course and may do serious damage. A London physician introduced one of these tubes into the esophagus of a patient of considerable influence in society, and sent him home, as he supposed, most satisfactorily; but the patient died the next day, and at the autopsy it was found that the esophagus had been perforated and that the tube rested in the anterior mediastinum. That one fatal case did much to discourage London men from using this instrument. I have not yet seen the case that I thought just fitted for such treatment. I could use such an instrument in the case of this girl, but I could not trust her intelligence.

At clinic, eighteen days later. This patient, on whom you saw the operation of gastrostomy performed, is about the ward and is doing well in every way. I have brought her before you in order to show you the tube which she wears in the gastric fistula. It is an improvement on the one first introduced. There is an external shield with a broad flange, which prevents its slipping in, while an attached bandage keeps it from coming out. Inside the shield is a smaller tube, whose depth in the stomach is regulated by a set-screw which fastens it to the shield. The outer end is closed with a rubber cork, except when food is introduced, when the stomach-tube is connected with a funnel by a piece of rubber tubing.

CLINICAL MEMORANDA.

A CASE OF CHOLECYSTOTOMY, WITH RECOVERY AFTER REMOVAL OF GALL-STONES.

BY THOMAS G. MORTON, M.D.,
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MRS. X., of Yardleyville, Pa., aged fifty-eight years, for many years suffered with irregularly-timed attacks of pain in the right hypochondrium, which occasionally, also, shot into her shoulders, more especially the right. Otherwise she had been entirely healthy and without important medical history. She never was jaundiced.

On November 11, 1892, she was seized with one of her attacks, but this was of unusual violence and accompanied with marked prostration. Her temperature was variable, and fluctuated between 99° and 103°. The abdominal pain was intense, but the stools were normal and there was no jaundice.

I was summoned to a consultation with Drs. Joseph E. Smith and W. S. Gillam, of Yardley, Pa., November 18th, when I first saw the patient. At this time her temperature was 102° and she was suffering intensely. The pain was much aggravated by motion and by palpating the right hypochondrium. In this region was discovered a very large, somewhat globular mass, between which and the liver there was no line of percussion-resonance, but the dulness was continuous. The tumor was slightly movable toward the spine, but in no other direction. Fluctuation was not present, or could not be developed. The bowels were open and normal.

As her condition appeared to be threatening, and as it was stated that the tumor had been rapidly increasing in size, it was determined to make an exploratory incision over the tumor without further delay, and be guided, as to subsequent procedures, as circumstances might direct. Accordingly, a four-inch incision was made through the abdominal wall, in the right hypochondriac region, immediately over the most prominent portion of the tumor. When the peritoneum had been opened to the full length of the external wound, an intensely distended cyst presented itself to view and almost entirely filled the bottom of the incision. This cyst proved upon examination to be an enormously distended and thickened gall-bladder, in size and shape much resembling a large cocoanut. It was intensely congested and in spots appeared as if it were about to become gangrenous. Flakes of recent lymph appeared wherever it had come in contact with other parts. About an inch of very much attenuated border of the liver appeared in the upper portion of the wound; but the cyst ran under and far above this tongue. A finger was carried around the gall-bladder in all directions and it was found to be quite free from adhesions, save the recent flakes of lymph already spoken of.

It was now determined not to open the cyst-wall, nor to attempt to suture it into the wound, for fear that the contents—being under evident pressure and of unknown character—might leak out through the punctures before surrounding and protecting adhesions had formed. The peritoneum was accordingly sutured to the skin-margins of the wound all the way around the opening, and the wound-cavity thus formed stuffed lightly with gauze, it being observed that the distended gall-bladder, and in part the liver-substance, occupied and closed the opening into the peritoneal cavity, and formed the floor of the wound.

The subsequent course of the case was very gratifying. Her temperature fell to normal almost at once after the operation and she was entirely free from pain. No food was given for thirty-six hours, thirst being relieved by six-ounce hot-water enemata containing two drams of brandy, administered at frequent intervals. Subsequently, she was given two drams of the juice of slightly broiled beef, every two hours until the bowels moved, on the third day, after which ordinary diet was gradually resumed. The bowels were opened at this time by one-tenth-grain doses each of calomel and podophyllin, given every two hours, beginning on the second day.

The second stage of the operation was not performed until two days later. At the end of forty-eight hours the dressings were taken away and the gall-bladder was found now to be firmly anchored in the bottom of the wound by strong peritoneal adhesions, thus cutting off all access to the peritoneal cavity. Two silk stitches, with long ends for control, were then passed into the wall of the bladder, one at each side of the wound. As soon as this was done pus poured out in a little stream from each puncture—thus proving the wisdom of not having attempted suture of the viscus at the time of operation, for then it would have been almost impossible to have protected the peritoneum from infection by the discharges, either at that or a subsequent time, if that course had been followed.

After the controlling sutures had been passed, as above stated, the cyst, or gall bladder, was opened by a bistoury to the extent of two inches in a vertical direction between the sutures, traction upon which now held the opening into the bladder widely open and at the same time gave support to the walls when a finger was passed into the interior. The thin portion of the liver, above referred to was incised to the extent of half an inch in making this opening; bleeding from it was free for a few moments and then spontaneously ceased. When the finger was introduced it at once came upon a large gall-stone lying loose in the interior of the gall-bladder, surrounded by pus. When this was removed, another, almost as large, was encountered in the cystic duct. This was likewise removed with forceps, after having been dislodged by a teaspoon. Then another calculus could be felt further along the duct, and after it had been taken away a fourth was felt, at a distance of six inches from the external opening, encysted in the bladder-wall. Considerable difficulty was experienced in dislodging this stone from its deep and constricted position, but this was finally accomplished by means of a small, long-handled, ordinary teaspoon, and it could then be grasped by a long-handled volsellum guided by a finger. While the last two stones were being removed the woman complained bitterly that I was causing her just such "rheumatic" pains as she had been having in her stomach and shoulders for years. Besides the four large stones above mentioned there were also removed or washed out from the bottom of the cavity a very large number of smaller calculi weighing from a

fraction of a grain to twelve grains each. These smaller stones in the aggregate weighed about seventy grains. The dimensions were subsequently taken of the three larger stones, when dried—circumference four inches; another was three and one-quarter inches in circumference. The weight of the four larger stones was 815 grains, or 1 ounce, 5 drams, and 35 grains (52.8 grams).

The cavity was then washed out with recently boiled and cooled water, a large double drainage-tube put in, and a copious dressing of gauze gently packed about the opening.

On January 31, 1893, Dr. Gillam writes: "Mrs. X. began to improve immediately after the stones were removed. At no time since the operation did her temperature reach 100° and she had no bad symptoms. The discharge from the wound was almost pure bile, after the first few days, and the dressings would become saturated in three or four hours and have to be renewed. Once a day I syringed the wound out with a weak carbolized solution and there would be a number of calculi washed out; there were a few as large as a pea, but most of them were like grains of sand. These almost entirely disappeared after the first week." In another letter, he stated that the drainage-tube was taken out November 27th. "There had been a profuse discharge of bile and some pus, which at this period was much diminished."

In about two weeks after the operation the wound had closed so much that the syringe could not be introduced, but the bile continued to flow until December 23d, when it stopped. There was a very slight discharge of bile two days later—the 25th—but there has been none since. Previous to December 23d the bowels had been constipated and the stools light; but after that they became regular and natural in color.

The patient was allowed to sit up in a chair about December 15th, and on January 1st she came down stairs. There is still some tenderness about the wound but she has gained strength and says that now she "feels better than she has for fifteen years."

The treatment after the operation was very carefully conducted by Dr. Gillam. The cavity was daily washed out with antiseptic solutions and in three weeks nothing remained but a small fistula, through which large quantities of pure bile were discharged. This fistula narrowed and finally closed early in January, 1893. As soon as the biliary fistula closed the passages became darker in color and the bowels were moved naturally every day. Previously the stools had been light in color and only came away as the result of small doses of irritant purgatives.

Since the operation this woman has had entire freedom from the violent pains that with remissions she had exprienced for over twenty years. She states that she is thoroughly comfortable at all times and regards herself as perfectly recovered.

The Medical Association of Georgia.—The forty-fourth annual session will be in Americus, on April 19th, 20th, and 21st. *President*—A. A. Smith, M.D., of Hawkinsville. *Vice-Presidents*—Geo. J. Grimes, M.D., of Columbus, and Robert H. Taylor, M.D., of Griffin. *Secretary*—Dan H. Howell, M.D., of Atlanta. *Treasurer*—E. C. Goodrich, M.D., of Augusta.

A CASE OF ANEURISM OF THE AORTA, ASSOCIATED WITH INSUFFICIENCY OF THE AORTIC VALVES.

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G. P., a male, aged forty-nine years, was admitted to St. Mary's Hospital January 3, 1893, seeking relief from a troublesome cough and hoarseness that had persisted for about three months. Otherwise he considered himself quite well, having been steadily at work up to the day of his entering the hospital. No very satisfactory history could be obtained, though, in a general way, it was ascertained that his health had always been good. The patient is at present free from pain; nor is there a history of pain during his illness. He is a well-built, robust man; his face is somewhat flushed, and the carotids can be plainly seen pulsating.

The laryngoscopic mirror shows the cause of the hoarseness to be paralysis of the left vocal band. During attempted phonation the left vocal band remains immovable in the so-called "cadaveric position," while the right advances normally to the median line.

On examining the chest we find the apex of the heart low down in the sixth intercostal space, quite an inch outside the mammary line. The impulse is heaving and extends over an unusually large area. The cardiac dulness is increased in proportion. The heart-sounds at the apex are normal, but over the aortic area a loud double murmur (systolic and diastolic) can be heard. This murmur is heard with even greater intensity along the left infra-clavicular region. Neither pulsation nor dulness can be detected over this area. When the patient assumes a recumbent position there is marked dyspnea and stridor. The right and left radial pulses are alike in time and character. The respiratory sounds are normal over both lungs.

When the larynx is grasped between the thumb and finger and elevated, a marked downward tug is felt with each heart-beat. No record was made of the relative size of the pupils.

From the physical signs in the chest the only conclusion to be drawn was that we had to do with a case of insufficiency of the aortic valves, with consequent hypertrophy of the left ventricle. This, however, was not sufficient to account for three important symptoms—the paralysis of the left vocal cord, the dyspnea in certain positions, and the tracheal tugging. Evidently there was pressure upon the trachea and upon the left recurrent laryngeal nerve, most probably, as it seemed, caused by an aneurism springing from the aorta.

From the time of the man's entrance into the hospital the condition remained about the same until the morning of February 16th, when he suddenly began spitting blood and in a few minutes dropped dead from hemorrhage.

At the autopsy only the chest-cavity was examined. On opening the chest the edges of the lungs were found overlapping the pericardial sac and presenting a glistening, congested hue. On incision, abundant frothy and bloody serum exuded. The heart was much larger than normal. The right ventricle was narrowed to a mere slit by the bulging walls of the left ventricle. The left ventricle was dilated and hypertrophied—the walls about an inch in thickness.

The valves of the heart were normal, with the exception of the aortic valves. These were studded with hard calcareous nodules, and were in parts rigid and shrunken. The aorta was much dilated, the walls irregularly thinned, and the intima covered with numerous calcareous plates. On the upper and posterior wall was an aperture about one-half inch in diameter, opening into a sac with soft, thin walls and about as large as a hen's egg. This sac was adherent to the left side of the trachea about an inch above the bifurcation, and at the point of adhesion the cartilage had become absorbed, the tissue softened and ulcerated, and perforation had taken place.

The points of special interest in the case are:

1. The presence of tracheal tugging.

2. The presence of aneurism of the aorta going on to perforation without physical signs.

3. The combination of aneurism with organic disease of the heart.

Much emphasis has recently been placed upon tracheal tugging as a diagnostic point in suspected aneurism of the aorta. McDonnell[1] describes the method of obtaining this sign as follows: "The patient is placed in the erect position and directed to close his mouth and elevate his chin to the fullest extent. The cricoid cartilage is then grasped between the finger and thumb, and by making gentle upward pressure the pulsation of the aorta will be distinctly felt transmitted through the trachea to the hand if dilatation or aneurism exist." From a study of twenty-five cases McDonnell draws the following conclusions:

1. Tracheal tugging does not occur in aneurisms that do not involve the transverse arch.

2. Tracheal tugging may be present when many other symptoms and physical signs are absent.

3. It is never present except in aneurism.

Dr. James Stewart[2] describes two cases in which this sign was present. Neither of them, however, came to an autopsy. He considers tracheal tugging a sign of the greatest value, and cites several writers whose experience is similar.

In the case I have described this sign was of especial diagnostic value, in the absence of dulness and pulsation over the seat of the aneurism.

The absence of physical signs of aneurism is easily explained by the course it took, springing from the posterior wall of the aorta, extending backward and upward and impinging upon the trachea. It did not touch the chest-walls, hence caused no physical signs. Nor is this a very unusual occurrence in aneurism of the transverse arch. It illustrates the remark of Broadbent (cited by Osler) that "the aneurism of physical signs springs from the ascending portion of the aorta; the aneurism of symptoms grows from the transverse arch."

Strümpell states that the association of aortic insufficiency and aortic aneurism is a not infrequent occurrence, and this we can easily understand, as both are the result of arterio-sclerosis.

The diagnosis is made from the diastolic murmur and the hypertrophied left ventricle, neither of which, in the opinion of most authorities, occurs in simple aneurism without disease of the aortic valves.

[1] London Lancet, March 7, 1891.

[2] International Clinics, vol. iii, p 92.

HOSPITAL NOTE.

A CASE OF UREMIA IN AN ALCOHOLIC PATIENT WITH VISCERAL COMPLICATIONS SUCCESSFULLY TREATED BY VENESECTION, DIAPHORESIS, AND NITROGLYCERIN.

Philadelphia Hospital.

SERVICE OF S. SOLIS-COHEN, M.D.

[Reported by W. E. BRUNER, M.D., Resident Physician.]

J. S., an Austrian, thirty-six years old, was admitted to the Philadephia Hospital December 13, 1892. His family history was negative. He had had pneumonia when twenty years old. He confessed to gonorrhea, but not to syphilis. He had not had rheumatism, and had until recently considered himself in good health, although accustomed to have severe headache at times, and occasionally troubled with nausea. He has for years been drinking beer to excess, but not to drunkenness; and is short, fat, and heavy, with the typical flushed cheeks and bloated facies of a beer-drinker, even after edema elsewhere has passed away.

About eight months ago he was seized with severe pain in the lumbar region, which has gradually decreased until now it is only slight. For four or five months he has been obliged to pass urine several times at night. The urine is dark in color and small in quantity; micturition is attended with burning. For four months there has been shortness of breath, and for two or three months slight impairment of vision—in fact, the man says he was completely blind three weeks ago for a short time. Abdomen and feet began to swell about three weeks before admission.

On admission the patient was quite dyspneic, but not cyanotic. He was completely "water-logged"; the legs were markedly edematous, as were also the hands, arms, chest and abdominal walls, face, and conjunctivæ. Ascites was present to a considerable degree, and râles of edema were heard posteriorly throughout both lungs. The heart's action was feeble; percussion was not satisfactory, owing to the great amount of fat and the edema of the chest-wall. Auscultation of the heart was much interfered with by the loudness of the transmitted tracheal breathing. It revealed feeble sounds, as in dilatation, and with difficulty a mitral systolic murmur could be detected; the second sound was not accentuated. The urine, of which but a few ounces were passed, had a specific gravity of 1021, and was laden with albumin, which made more than two-thirds by bulk when the urine was boiled and then allowed to stand for twenty-four hours. Granular and broad hyaline casts were abundant. Ophthalmoscopic examination revealed a marked degree of albuminuric retinitis.

The man was placed at once upon cardiant diuretics: infusion of digitalis, with spirit of nitrous ether, supplemented after two days by sparteine sulphate and caffeine in small, frequently-repeated doses. Compound jalap powder was freely administered, and hot-air baths, aided at first by small doses of pilocarpine, were tried, but without inducing perspiration. The diet was restricted to milk. The mental condition was marked by stupor and irritability, and it was extremely difficult to get the man to take food or medicine.

On the 16th he had a general convulsion. When seen a few minutes later, his face was slightly cyanosed, the breathing was stertorous, the pupils were widely dilated, and head and eyes were turned to the left. Consciousness was completely lost. The vascular tension, as appreciable at the radials, was very high. Unfortunately the man was so restless that his temperature could not be taken. Three drops of croton oil were given at once, and twenty-four ounces of very black blood were withdrawn from the arm. Just as his arm was being bandaged he had a second and terrific convulsion; after the control of which, by inhalations of chloroform, the vein was at once reopened, and an additional half-pint of blood abstracted. The man then became wildly delirious. The lungs were filled with fluid, giving rise to moist râles; but, in spite of this fact, pilocarpine hydrochlorate, gr. ⅙, with sparteine sulphate, gr. ½, was given hypodermatically, and the steam-bath was started. The pilocarpine was repeated in an hour, with sparteine sulphate, gr. ¼, and the steam-bath was continued for three and one-half hours, with, however, but slight effect. Nitroglycerin (1 per cent. solution), gtt. 2, sparteine sulphate, gr. ⅛, and spirit of nitrous ether, fl ʒj, were given every hour during the afternoon and every two hours throughout the night.

On the following morning the patient was perfectly rational and very comfortable. The heart was acting more steadily, more strongly and less rapidly; the murmur was more readily detected, and the second sound was clearer. Hot-air and, later, steam-baths were given daily, aided by pilocarpine, gr. ¼ subcutaneously, or gr. ½ by the mouth; but it was several days before any marked effect appeared, when very free sweating took place.

On January 2d the patient was not so well. It had been decided to modify the treatment by giving alkaline diuretics with the sparteine and nitro-glycerin; but for several days he had been refusing to take his medicine, so that he got only what could be given hypodermatically, together with the baths. Urgent symptoms, however, had been absent. He was very nervous on this afternoon. His muscles were twitching and his hands jerking; his pupils were somewhat dilated, and he seemed on the verge of another convulsion. After a preliminary inhalation of amyl nitrite, croton oil was again administered, with pilocarpine and the hot-air bath; after which nitro-glycerin (gtt. 1 of a 1 per cent. solution) was given at first every half-hour, and then every hour.

On the following morning he was much better, and as he had considerable ascites it was decided to remove the fluid, and thus relieve the kidneys of that much extra work. Although some authorities advise against abdominal paracentesis under such circumstances, one hundred and ten (110) ounces of fluid were withdrawn, with no evil effect whatever, but with decidedly beneficial results. When the fluid had been removed, percussion in the right hypochondrium indicated smooth enlargement of the liver to a moderate degree.

Despite a severe attack of acute bronchitis, and later an attack of pleurisy, the patient has continued to improve. The edema has almost entirely disappeared, and the amount of urine in the twenty-four hours has increased to ninety ounces. Tested by heat, it contains about one-third its bulk of albumin. On several occasions the edema has rather rapidly increased; but pilocarpine and the hot-air bath, with the free administration of nitro-glycerin, in addition to his regular treatment by diuretics and cathartics, relieved the urgent symptoms. An attack of tachycardia, with a pulse of 170 per minute, was relieved apparently by strychnine sulphate hypodermatically. An asthmatoid attack was relieved by wet-cupping of the chest and hypodermatic injection of strychnine; on several occasions since there have been paroxysms of rapid breathing believed to be largely hysterical.

Present treatment consists of regulated diet, warmth, sparteine, caffeine, and nitro-glycerin, in alternation with Basham's mixture of iron and ammonium acetate, and purgation as necessary.

The noteworthy points in the case, as impressed upon the observer who saw it from hour to hour, and could compare its progress with that of other cases more or less similar in certain respects, are the prompt relief afforded by venesection in the first convulsion; the effect of frequently-repeated doses of nitro-glycerin in averting a second convulsion; the excellent result of abdominal tapping; the superiority of a combination of sparteine and caffeine in this instance to digitalis as a cardiant diuretic; the superior efficiency of diuretic mixtures containing nitrous ether over the same drugs unaided; the determination of the pilocarpine result to the skin and not to the lungs, notwithstanding the apparent counter-indication of pulmonary edema. Although caffeine was discontinued for a time during the period of cerebral manifestations, it is not believed that these can be ascribed to that drug. Its favorable influence since would seem to negative such a supposition. Of any single measure, venesection was the most useful at the moment.

MEDICAL PROGRESS.

A New Method of Rapidly Removing the Uterus.—At a recent meeting of the Kansas City Academy of Medicine, Dr. Emory Lanphear described a new method of abdominal hysterectomy. The abdomen and vagina having been carefully sterilized, an incision is made in the median line, terminating as close to the pubes as possible. The uterus, with one tube and ovary, is drawn to one side and a clamp is applied to the broad ligament, which is securely ligated half an inch beyond and cut through between the two. The procedure is repeated upon the opposite side. The uterus can now be lifted up into the wound and be easily separated from bladder and rectum. The incisions are carried anteriorly and posteriorly into the vagina, when the clamp of Kelly or that of Polk is introduced through the vagina and applied to the broad ligament as closely as possible to the uterus, and the opposite side is treated similarly, when the uterus is quickly cut away with curved scissors. The pelvis is irrigated and the abdominal wound closed, and drainage through the vagina provided for, as in cases of vaginal hysterectomy. The clamps are removed at the expiration of forty-eight hours. The operation can be performed in twenty-five or thirty minutes, and much more easily than vaginal hysterectomy with clamps. It is thought not necessary

to unite the bladder to the rectum, as union takes place just as quickly without sutures as with them.

Successful Operation for Incised Wound of the Heart.—MARKS (*Medical Fortnightly*, iii, 2, p. 44) has reported the case of a colored man, nineteen years old, who received a stab-wound of the left side of the chest and of the right arm. There was no vomiting of blood, and the urine presented no abnormality. With antiseptic precautions, the wound, which was situated over the ninth costal cartilage, to the inner side of the mammary line, and was an inch in length and directed transversely across the chest, was enlarged toward the median line for a distance of four inches, and the ninth and tenth cartilages, for a distance of an inch and a half, were removed. The pleura was found to have been perforated and air rushed in and out with the respiratory movements. The pleural cavity was filled with blood. The pericardium was also found to have been incised, and the wall of the heart contained an opening sufficiently large to admit about half an inch of the tip of the finger. The cavity was packed with gauze, the man was put to bed and hot bottles were applied. For about four days there was some acceleration of pulse and respiration and some elevation of temperature. Thereafter recovery was progressive. The patient arose from bed and walked about ten days after the reception of the injury, and was dismissed nine days later.

Abuse of the Milk diet.—LECORCHÉ and TALAMON (*La Médecine Moderne; Wiener medizinische Presse*, 1893, No. 5, p. 180) call attention to the fact that, although milk is a perfect food, at least a gallon would have to be taken in the course of twenty-four hours in order to furnish a sufficient amount of fat, albumin, and carbohydrates. Few persons are able to take such large quantities for any length of time. A milk-diet may suffice for a person in bed, but it will not for an active person. The larger number of albuminurics are able to be about and a milk-diet must be employed as a medicament. Besides, it is not necessary that a milk-diet be persisted in in the remissions of the inflammatory process in the kidneys. When once the acute irritation has been allayed by means of a milk-diet and the establishment of polyuria has removed all danger of the accumulation of excrementitious matters in the blood, the continuance of a milk-diet cannot be expected to dissipate entirely the presence of albumin in the urine. A milk-diet is thus indicated in cases of acute nephritis, and during acute exacerbations of a chronic nephritis. It not only does no good, but it really does harm in cases in which the urine contains a minimal amount of albumin and the blood an excess of uric acid, perhaps in association with gout or in the train of acute infectious diseases.

Symphysiotomy in a Male.—ALBARRAN (*Le Mercredi Médical*, 1893, No. 4, p. 37) has reported the case of a man thirty-one years old, in which symphysiotomy was performed to facilitate the removal of a large recurrent epithelioma of the interior of the bladder. An incision was made in the middle line from about three fingers' breadth above the pubic joint to within a third of an inch of the root of the penis, from which diverged two other incisions, each about a third of an inch long, like the arms of an inverted Y. The tissues about the articulation were dissected away, the anterior wall of the bladder was protected from injury, and the joint was opened by means of a bistoury supplemented by a chisel and mallet. By flexing the thighs it was with gentle efforts possible to separate the pubic bones a distance of a little more than an inch and a half. When the bladder was opened it was found that there were two growths in the aggregate of the size of a mandarin. These, together with a trapezoidal area of the wall of the bladder, 2½ by 1½ inches, were removed. The bladder was closed by a deep layer of catgut sutures and a superficial layer of Lembert silk sutures. Hemorrhage from a plexus of veins necessitated a packing with gauze. The subsequent course of the case was entirely satisfactory. On the second day the packing was removed. On the eighth day a small amount of urine was found on the dressing. The small fistula closed after some time and the wound finally cicatrized perfectly. Four months after the operation the condition of the patient was in all respects excellent.

THERAPEUTIC NOTES.

For the Leukorrhea of Children.—

℞.—Iodoformi . . . . . ℥j
Ol. theobromæ . . . . . ℥iv.—M.
Ft. suppositoria no. xvi.
S.—Introduce one, night and morning, high into the vagina.

Med.-Chir. Centralbl.; Rev. Int. de Thér. et Phar., i, 3.

For Comedones.—(BLONDELL.)

℞.—Pulv. rhataniæ rad. . . . ℥j.
Gummi tragacanth. . . . ℥ij.
Bismuthi subnit. } . . āa ʒiij.—M.
Pulv. acid. boric. }
Ft. pulv.
S.—Apply topically.

Rif. Med.; Monatsh. f. prakt. Dermatol., xvi, 4.

For Asthma.—

℞.—Potass. iodid. . . . . ℥ij.
Tinct. scillæ . . . . . fʒj.
Tinct. stramonii . . . . fʒij.
Ext. glycyrrhizæ fl. . . . fʒiij.
Spt. ætheris . . . . . fʒj.
Aquæ . . . . ad fʒviij.—M.
S.—A tablespoonful in water every six hours.

The Practitioner.

To Deodorize Iodoform, Creasote, and Guaiacol.—The odor of iodoform, creasote, or guaiacol upon the hands can be overcome by washing with linseed meal. Articles having an odor of iodoform may be washed in tar-water to which oil of wintergreen has been added. The taste of pills of creasote can be disguised by means of a little powdered coffee. The odor of iodoform or guaiacol in rooms can be dissipated by burning coffee. —*Deutsche medizinal Zeitg.; Monatsh. f. prakt. Dermatol.*, xvi, 4.

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SATURDAY, MARCH 18, 1893.

MILK-STERILIZATION.

In the year 1891, 5488 deaths occurred in the city of Philadelphia among children under one year of age. Of this number, 1000 died from cholera infantum during the three summer months; 1400 died from inanition and marasmus, and 700 more from convulsions.

Cholera infantum is mostly prevalent in hand-fed infants. In a careful study, Arnstein shows the disease to be directly due to fermenting and decomposed milk. Booker has found the bacillus lactis aërogenes and the bacillus coli commune present in the stools of cases of cholera infantum, but not in the feces of healthy hand-fed children.

Many of the deaths attributed to convulsions and inanition are also probably due to the toxic influences of germs ingested with the food.

When we consider the manner in which milk is treated before it reaches the consumer, as well as the various contaminations to which it is subjected in its transit from the udder of the cow to the table, we should hesitate long and debate well, before using it in its crude state as a food.

Often the animals themselves are diseased. Besides, the dairyman may be unclean; the receptacles may contain hosts of germs; and after the milk leaves the farm, it is often carted about in filthy wagons, exposed to the dust of the streets, or dispensed from the counter of a badly kept shop. Under these circumstances there is but little chance for milk to retain its purity.

Ten per cent. of the milk examined by the city milk-inspector during the months of July and August, 1891, was condemned because of adulteration and dilution; but the chief source of danger, the disease-producing impurities, are beyond the ken of the lactometer.

Various sterilizers have been devised to render milk sterile; but when milk has become infected with noxious germs, only such a degree of sterilization will prove effective as will interfere seriously with the digestibility of the fluid.

When the spores of the butyric-acid bacillus are present, seven hours of continued boiling are necessary for their destruction. Pasteurization (*i. e.*, the heating of milk to a temperature of from 130° F. to 150° F. for ten minutes) only facilitates the germination of these microbes. Boiling destroys the solubility of the lime-salts, in the absence of which the child's stomach cannot digest the milk.

According to the standard of Soxhlet, milk intended as food for children should contain the normal constituents; and after it has been heated in a steam-chest for three-quarters of an hour, at a temperature of 212° F., it should remain sterile in a temperature of 95° F. for one month. It is only possible to obtain such milk when the methods in vogue in bacteriologic laboratories are carried out at the dairy-farm. Milk should be received from the healthy cow in sterile glass jars, which, with their contents, are placed in steam sterilizers and heated for ten or twenty minutes at a temperature of 160° F., and transported directly to the consumer.

Should the milk then sour in a shorter time than usual some detail must have been omitted, and the inspector will be called upon to make an investigation, as he now does in the case of adulterated milk. For the present, hospitals, dispensaries, and physicians should aim to control the source of milk-supply for their small patients, especially during the summer months, and endeavor to provide families with pure milk, properly sterilized.

If this is done generally, a great lessening in the death-rate among infants must result. Statistics show that this summer-mortality is not confined to any one section of the city, and that it is as high among the rich as among the poor.

To summarize: Sterilization of milk, to be effective without causing chemical changes, must be practised directly after the fluid has been obtained; care must be exercised in handling and transportation, so as to prevent contamination; warming the milk, as is now ordinarily done, will only hasten and aid germination of organisms present.

THE AMBLYOPIA OF DIABETICS.

MAN is a credulous being, and physicians are but men. It is much less troublesome to accept unquestioned the statements of one's predecessors than to go out of one's way to confirm their accuracy or demonstrate their fallacy. This spirit is responsible for the perpetuation of many mistakes of observation and of reasoning, and for the failure to establish many a truth. Thus, it has been believed that pulmonary tuberculosis does not develop in those that have valvular lesions of the heart, and especially mitral incompetency, or that have carcinoma, or that have emphysema of the lungs. These various illusions have, one by one, been dissipated by the light of modern investigation and research, leaving behind the element of truth out of which they were conjured. The dictum that the development of cataract is a common complication of diabetes mellitus has long been transmitted from teacher to pupil, and has received general acceptance. MAUTHNER (*Internationale klinische Rundschau*, vii, 6, 7), whose opportunities for observation at the Vienna Klinik have been unusually large, takes pains to point out that this association, far from being common, is extremely rare. His observations were not confined to his own ophthalmic practice, but included a study of a large number of diabetic subjects at Carlsbad. In most of the cases in which defects of vision were found these could be as readily attributed to concomitant conditions, such as age, impaired nutrition, and other intrinsic influences. The number of cases of diabetes mellitus in which cataract exists will, at best, be found to be exceedingly small. It is pointed out that the peripheral striation of the lens sometimes found in diabetics, and especially in the inferior median quadrant, is quite common, and becomes progressively more frequent in individuals that have passed the fiftieth year of life.

Among the influences that might be considered as favorable to the development of cataract are: The displacement of water in the fluids and tissues of the body by the presence of sugar; a diminution in the resistance of the walls of the bloodvessels as a result of the disturbance of the general nutrition; the development, as a result of the pathologic metabolism, of toxic substances that give rise to inflammation and degeneration; the marked marasmus; complicating or intercurrent affections. If the ocular changes were due to the loss of water, they should likewise occur in simple polyuria. It is more than doubtful that opacities of the lens result from the presence of sugar, for there is evidence that the lens normally contains sugar. The development of cataract in an elderly person whose urine contains sugar, does not constitute sufficient ground on which to make the glycosuria responsible for the loss of transparency of the lens, for it is known that in the large majority of cases of senile cataract the urine does not contain sugar. The conclusion is reached that the presence of sugar in the fluids of the eye does not lead to any disease of the organ of vision, and especially not to the development of cataract. In a small percentage of cases of diabetes mellitus, however, the excessive elimination of sugar and of water does lead to the development of cataract.

Vision may also suffer in cases of diabetes in consequence of the occurrence of hemorrhage as a result of the lowered resistance of the walls of the bloodvessels in the train of the nutritive disturbance. The hemorrhage may involve the intra-ocular apparatus; retina, choroid, vitreous, conjunctiva; or intra-cranial structures: optic radiation, nucleus of the optic nerve, of the motor, sensory (and trophic) nerves of the eye.

EDITORIAL COMMENTS.

Professional Abuses.—An eminent physician sends us a letter from which we reproduce some extracts:

"I know of some practitioners who advertise in the daily press; of others who are commercially connected with drug firms, and who require their patients to take their prescriptions to certain drug-stores; and still others who are furnished with offices, free of rent charges, by proprietors of drug-stores, in lieu of the prescription trade of such physicians. The professional gentlemen referred to sneer at medical ethics so long as their private interests are at stake. And as a result of this humiliating state of affairs, our city, if not the whole State, is infested with quacks, to suppress which there exists apparently no law; and, *pari passu* with this growing evil in itself, the regular profession, as a rule, walks arm-in-arm with quackery and lives royally on the general spoils, on the credulity of a patient public, of a suffering humanity, the victim ever of impostors on the one hand and of commercial regular physicians on the other."

Our correspondent proposed to prominent members of the local medical society to introduce a resolution whereby such offenders should be expelled from the society. He says:

"I was told by these gentlemen that this step would be a most unwise one; that it would be harmful to my personal interests, and that if brought before the society the resolution would be *downed* and sat upon! Indeed, some of these physicians have not been able to suppress their indignation, and have candidly or otherwise advised me not to introduce any such resolution."

Our correspondent proposes to go straight on in openly and persistently opposing such abuses, and we trust he will do so. The very men that find themselves reduced to such disgraces are often they who will thank the reformer they pretend to vilify for putting things to rights. Medical practice cannot permanently be reduced to such a basis, but the longer the degradation continues the more difficult it is to get back upon the everlasting basis.

Action of the New York Academy of Medicine as to Croton-Water Contamination.—Again the New York Academy of Medicine has performed a double duty to the public and to the medical profession. Its action is most excellent in condemning the proposal to give a man without the least training or knowledge of sanitary science, unlimited power to expend two or three millions of the public money in buying property and regulating the water-supply of the city. A committee of the Academy was named to go to Albany and to represent the views of the Academy against the pending bill.

But in setting an example to the medical profession lies the chief merit. Every local and every general medical meeting or society should not fail to follow the example set, and to express its views with dignity but with the most absolute clearness upon questions pertaining to the public health. Medicine is henceforth largely preventive in function. The cure of disease is no longer the physician's sole duty. Nothing will more speedily and certainly raise the profession to the position of public honor and power it should occupy than this decided interest and influence in all questions of public sanitation. The interest it has, but it is not exercised, because it has not spoken as a body; the power it may have—and it cannot help being a power for good—if it will awaken to what is at once its duty and its opportunity.

Further Note as to H_2O_2.—THE MEDICAL NEWS is always glad to learn, and if in error, to admit it. Since our recent remarks on hydrogen dioxid we have learned that the reason of the bursting of a certain lot of bottles made by one firm whose product, as analyzed by Dr. Leffmann, was found up to the claim of volume-strength, was not spontaneous liberation of O on account of excessive charging, as we had supposed, but from impurity from rubber stoppers, causing decomposition and liberation of O under pressure. This being now avoided by the use of corks, it appears that a solution of 15 volumes can be made that will for a reasonable time preserve its strength, if not contaminated by impurities and not subjected to mechanical agitation. Nevertheless, a 10 or 12 volume solution is more stable, and the strength more than ample for all purposes. The objection to highly acid solutions remains just as we stated it. These do no good, and in the throats of children do much harm. We desire, while on the subject, to emphasize the value of the internal use of H_2O_2 in pneumonia, phthisis, diabetes, gout, whooping-cough, and anemia.

Limit Papers to Ten Minutes.—The New York Academy of Medicine, and especially the section on Pediatrics, has found it an excellent plan to limit the time of reading of papers in medical societies to ten minutes. In large and crowded meetings the long sessions consequent upon thirty or forty-five minute papers become wearisome, and interest is bound to flag. By begining without excuses or preambles, by condensing the substance of the offering, and by ending when done, few or no papers would suffer by limitation to a ten-minute presentation. Explanations, notes, and details may, if desired, be printed, but busy men want the essence of the matter promptly and clearly. But whether ten or fifteen, or even twenty minutes, be allowed, let the rule never be broken to pass no vote to give a reader more time. If given to one for the sake of courtesy, it must be to others—with the result we all know!

Venesection.—An attentive reader of clinical reports and lectures must be impressed with the fact that the therapeutic pendulum is rapidly swinging toward a more frequent resort to bloodletting. Venesection is not practised indiscriminately or without sufficient indication; but its field of usefulness is being discovered and defined. The revival of humoral pathology has doubtless something to do with this, as one who might hesitate to abstract twenty or forty ounces of nutritive fluid, is not afraid to relieve his patient of that quantity of a poisoned serum. In uremia and in puerperal eclampsia, as well as in certain cases of pneumonia, the practice is rational.

Importation of Infected Rags.—Whether or not the motive of those in New York arousing the controversy as to the importation of foul rags from Europe sprang from commercial rivalry, the fact remains that, if the samples of rags given Dr. Gibier to examine were "genuine," there is a most decided danger of the importation of infectious diseases by means of the rags. The Government at Washington now having legal power in all such matters, we may hope that this danger may be carefully looked after, and proper preventive measures instituted.

The Protective Tariff and the Profession.—A contemporary journal would not have the tariff on microscopes, surgical instruments, medical books, etc., *too* high, but just high enough to give us "prosperous instrument-makers." Bosh! The profession exists to alleviate the physical sufferings of mankind. Every unnecessary increase of price of the physicians' tools makes the service so much more expensive either to the physician or to his patient. This result is against good morals and good medicine.

The Consolidation of Medical Colleges, proposed in Chicago, is also urged by the profession in Cincinnati. Such

movements are as inevitable as centralization of power in governments and of capital in commerce. It is indeed strange that the multiplication of medical colleges has been permitted to reach the outrageous degree today existing. If professors had not been allowed to own and use the colleges as money-making tools it could never have reached the present extreme.

England's Drink-Bill, for the year 1892, though nearly two millions of dollars less than in 1891, reached the preposterous sum of over $720,000,000, and it is probable that over half this amount was wasted by the working classes. What a terrible factor such an abuse is in the production of disease and death, is as much beyond question as it is beyond estimation.

The Salaries of Medical Professors, attached to the chairs of medicine, surgery and obstetrics in the Universities of Edinburgh and Glasgow are $3000. It is now proposed to reduce the corresponding salaries at Aberdeen University to the same figures. The men occupying these chairs are allowed to practise. The salaries in other departments are higher, but practice is forbidden.

Increase of Mortality from Carcinoma.—The proportion of total deaths due to carcinoma in England shows a steady increase. In 1838 it was 1 : 140; in 1850 it was 1 : 74; in 1860, 1 : 62; in 1870, 1 : to 54; in 1880, 1 : 40; and in 1890 about 1: 28. In Scotland, and, indeed, all over the civilized world, a similar rate of increase is shown by statistical returns.

Legacies to Physicians are not allowed according to the French law, if devised during the illness for which the patient is treated. It has, however, been lately decided that, though the attending physician is thus debarred, the consulting physician is not so forbidden. If the attendant is a possible murderer, why is the consultant not such also?

SELECTIONS.

SANITARY SUPERVISION OF SCHOOLS.

THE Local Government Board of England has recently issued a circular, which has been indorsed by the Massachusetts State Board of Health, and which may, therefore, be considered as authority and representative of the work of boards of health in this direction. The following are extracts from it:

"1. The diseases for which schools may be closed or children excluded are such as cause infection from person to person—scarlet-fever, measles, diphtheria, whooping-cough, smallpox, and rötheln, in order of relative frequency. More rarely the same question arises as to enteric fever and diarrheal diseases, which spread mainly by agency of local conditions—viz., infected school water-closets and outhouses.

"2. A universal principle is, that all children infected are excluded, however light the infection may be to others.

"3. As to mumps and skin diseases, school interests are to be considered more than in the other affections mentioned; but if these should spread by allowing children to go to school, the loss to children and school would be greater than to exclude the infected.

"4. Closure of schools is a grave step for sanitary authorities to take, and seldom should be undertaken except in an actual epidemic, nor then as a matter of routine nor unless there is a clear prospect of preventing the propagation of disease not to be attained by any other means.

"To decide, the fact of many pupils affected is not a reason; but if in a large majority of families the first case be a pupil, and especially if among families far apart and attending the same school, school should be closed, and if the infected cases can be *proved* to have attended the school.

"5. The medical officer should promptly notify the teacher of an infected pupil, and it should be kept from school the length of time the medical officer specifies. School officers should *promptly* notify health authorities of cases of contagious disease, no matter what *name* is used for the disease. Such officers during an epidemic should note any symptoms, such as shivering, headache, languor (especially if sudden), vomiting, rashes, sore-throat. During scarlet fever or diphtheria epidemics, any sore-throat is suspicious, and pupils should be excluded until safe assurance is given by a physician.

"6. Commonly the failure to stop the spread of an epidemic, especially among pupils, shows continued attendance of unrecognized mild cases, and school may have to be closed.

"7. A matter of importance in deciding as to closure is the opportunity for intercommunication of pupils outside the school. In small hamlets this is slight. In some sections of cities, as in tenement districts, more harm than good may be done by closing.

"8. All notices of proposed closure of schools should be sent to school managers in writing, the reasons given, and time of closure specified and made as short as possible, and a second notice given before the time for the expiration of the first, if closure is to be continued beyond the time specified in the first notice."—*The Sanitarian.*

MEDICINE AS A CAREER.

DR. J. S. BILLINGS, in a recent article on "Medicine as a Career,"[1] arranges the preparatory years of one who would fit himself for the medical life, as follows:

"My young friend whose attention I wish to direct to medicine as a career will have spent five years at a good intermediate school as a preliminary to entering the university, which he does when he is about seventeen years old. He has spent three or four years at the university, four years at the medical school, one and one-half years in the hospital, and two years in travel and special studies. When, therefore, he is ready to begin work he will be about twenty-eight years old, and his education, living, books, etc., will have cost about eight thousand dollars from the time that he entered the university. It can be done for less, but this is a fair average estimate."

If this imaginary young friend went to Harvard, he would be more nearly nineteen than seventeen on entering the undergraduate department; he would be about twenty-three on entering the Medical School

[1] Forum, February, 1893.

with an A.B. degree; he would be twenty-seven when he secured his M.D. degree; and if he spent eighteen months in a hospital and two years in travel and special studies, he would be fully thirty years of age when ready to begin the practice of an arduous profession, the first years of which are apt to be years of patient drudgery. For turning such years to profitable account, the hopefulness, the enthusiasm, the elasticity of youth are most essential. But at the age of thirty, for most men, the sun is already high above the horizon, the dew is off the grass, and the first freshness has gone from the morning air.—*Boston Med. and Surg. Journal.*

"POLITICS."

THE Academy has done more than merely throw the weight of its influence on the side of the advocates of national control of quarantine methods; it has asserted the principle that a scientific body owes the country active service as well as advice whenever its scientific knowledge may help avert a common danger or advance the common welfare. We say this without the slightest intention of committing the *Journal* to participation in the ostrich-like feeling of security that a national quarantine administration, even the best that can be devised, will prove all-powerful for the preservation of the public health.

For the Academy to degrade itself by adopting the "politics" of the slums or pursuing the methods of the corrupt lobbyist would surely be bad; but for it to refrain from exerting its power to the utmost in the cause of public safety would be far worse. If the most influential medical organization in the country refuses to advocate measures of great importance to the whole nation, for fear of becoming involved in "politics," that organization is disgraced in the eyes of all loyal citizens. The Academy cannot avoid taking part in "politics" in its higher meaning, and, if it does its duty, need not fear contamination from the baser sort of "politics."—*The New York Medical Journal.*

CORRESPONDENCE.

VENESECTION IN RIGIDITY OF THE OS UTERI AND IN ALLIED CONDITIONS THAT MAY RETARD LABOR.

To the Editor of THE MEDICAL NEWS,

SIR: THE MEDICAL NEWS of December 10, 1892, p. 656, and of January 14, 1893, p. 55, contains articles written respectively by Dr. Edward P. Davis and by Dr. J. J. Lamadrid on the treatment of rigidity of the os uteri in labor, in which Dr. Davis recommends surgical interference by incision of the os, and Dr. Lamadrid dilatation by mechanical means.

I have seen labor apparently advanced and terminated naturally by means of the fingers used as dilators; but, if rigidity still persisted, I have as often resorted to bloodletting, with such favorable results that I have, so far, had no occasion to incise the os.

On April 24th, at 3 A.M., I saw a primipara, twenty-two years old, well developed, and of full habit. The os was not dilated sufficiently to admit the index-finger. As she had slept very little during the night and the pains continued with no apparent progress, I gave her at 7 A.M. a dose of morphine, from the effects of which she rested at intervals for several hours, after which the pains became stronger and more regular. Still the os remained rigid and undilated until 3 P.M., when I bled her from the arm until she complained of faintness. Shortly after returning to bed her pains became more frequent and stronger; the os softened and began to dilate, and at 5 P.M. the child was born. There was no laceration of the womb or perineum, and mother and child did well.

On January 20th, at 7 P.M., I saw in consultation a primipara, thirty years old. Labor had commenced at 3 or 4 A.M. I found the os dilated about three-fourths of an inch; both its external and internal parts were hard and unyielding to the touch. Her pains were mitigated by chloroform, which she had been allowed to inhale for several hours. I proposed venesection, and as soon as she recovered from the effects of the chloroform sufficiently to sit up she was freely bled from the arm. The pains soon came on, and at 9.30 P.M. (about two hours after she was bled, during which time no anesthetic was given her) a living child was born.

These are two of a number of similar cases that I could report, and are selected only because the data are accessible.

Meigs, in his *Practice of Midwifery* (2d ed., 1842, p. 182), after due caution as to the amount of blood generally necessary to be taken, its effect on the pulse, etc., says: "But, on the other hand, where symptoms strongly threatening of apoplexy, convulsions, pulmonary hemorrhage, inflammation, etc., make their appearance, the lancet should be used in the most fearless manner. The same is true of those cases where a great relaxation of the tone of the tissues is required for some special and pressing object, such as the relaxation of a strictured vagina or a very rigid uterus, the removal of a violent congestive or inflammatory accumulation of blood in the brain, etc."

Rigby, in his *System of Midwifery* (American ed., 1841), recommends venesection as one of the remedies in rigidity of the os uteri, contracted vagina, stricture of the uterus, and in lying-in women with pleurisy or pneumonia.

Cazeaux, in his *Treatise on Midwifery* (American ed., 1868), in speaking of the treatment of "rigidity of the cervix" (p. 699), says: "Prolonged baths, employed from the beginning of the labor, and bleeding from the arm, if not contra-indicated by the general condition of the patient, are the only means which may be used under the circumstances." But in the next paragraph he says: "Still, if the labor should be extremely prolonged, and by its duration seems likely to endanger the life of the mother, it would be right to make a few incisions upon the lateral parts of the cervix." The same eminent author, under the head of "Spasmodic Contraction of the Neck" (of the uterus), after mentioning (p. 700) "forcible introduction of the hand and multiple incisions upon the neck," says (p. 701): "Bleeding, general bathing, and laudanum injections may be employed usefully under these circumstances also, though it sometimes happens that the contraction

of the internal orifice persists notwithstanding. Under these circumstances, should version be judged necessary, the most serious difficulty may be anticipated in passing the hand through the retracted part; and if the application of the forceps be deemed requisite, as it would if the head were already engaged, but delayed by the retraction of the internal orifice, this latter circumstance, by arresting the shoulders, would render the delivery impossible. It is then we must have recourse to the measures so much vaunted and so often employed by Dewees with success, namely, to bleeding in the arm pushed *ad deliquium animi*. But, in order to avoid drawing too great a quantity of blood, the patient should be directed to stand up, if possible, and as soon as fainting occurs, she is to be replaced on the bed, when, according to the American accoucheur, the relaxation in the retracted orifice, produced by the syncope, will be such that the pelvic version or the extraction of the head by the forceps can always be performed." Furthermore, Cazeaux (p. 701, *op. cit.*) says that "in a natural labor by the pelvis the retraction of one of these orifices may likewise arrest the head. Under such circumstances, if the source of difficulty is confined to the external one, numerous incisions might be made in the ring of the os uteri; but if it is at the internal orifice, Dewees's plan should certainly be followed." When the woman's general condition does not admit of bloodletting, Cazeaux recommends "opiates in full doses and inhalations of chloroform." Professor Meigs (p. 181, *op. cit.*) says: "Professor Dewees has been justly celebrated for the boldness and good judgment with which he resorted to bloodletting in some cases of labor."

Half a century has elapsed since the majority of the authorities quoted taught that venesection is beneficial in certain conditions of labor, but few teachers of the present day recommend it in obstetric practice. Dr. Davis, in his *Manual of Practical Obstetrics*, does not mention venesection in rigidity of the os and cervix, but speaks of bloodletting in puerperal eclampsia. On page 172, he says: "In apoplectiform cases, where plethora is excessive, bleeding may be practised with marked temporary benefit. No permanent benefit can be expected, as this expedient will not exercise more than a temporary influence over the patient." This is contrary to an experience in which, after bleeding *freely*, the convulsions cease, the os dilates rapidly, and the child is born in a surprisingly short time. Full and free bleeding is the *sine qua non* in puerperal eclampsia.

Such is the attitude of our obstetric teachers in regard to venesection that the general practitioner stands aghast at the mention of bloodletting under any circumstances, and, drifting with the current of fashion and public opinion, in our eagerness to discover some new or novel remedy or means to accomplish our object, we ignore the old and proved remedies.

If, as its advocates claim, venesection causes relaxation of the rigid os uteri and other parts of the genital organs sufficiently to admit of a speedy termination of labor, the inference follows that it may, to some extent, serve as a preventive of laceration of the womb and other parts of the genital tract, and, instead of making incisions into the womb in order to facilitate labor, thereby furnishing a wound for the gynecologist to close, or leaving it an open sore to act as a source of septic infection, carcinoma, etc., we may, by the simple and harmless process of extracting a few ounces of blood, prevent such dreadful results (first described by Emmet) as follow laceration of the womb and other parts. These remarks are scarcely applicable to those cases in which there is cicatricial tissue from old lacerations or from multiple incisions of the os in labor. Does it not seem inconsistent for the gynecologist to teach that a lacerated wound of the os uteri is the source of so much suffering and of untimely death to women, and the obstetrician to teach that it is our duty to produce numerous incised wounds of the same parts, and that we may do so with impunity? We would detract nothing from the wonderful discoveries by which all departments of medical science have advanced; but has the old process of childbirth advanced with these discoveries, so that what was advantageous in labor fifty years ago is useless or injurious now?

Venesection is one of the most rational and effective means at our command, not only in the class of cases under consideration, but in some inflammatory conditions—for instance, in acute pleurisy, which venesection will more speedily and permanently relieve than any other known remedy. The same is true of some cases of acute croupous pneumonia. How bleeding affects the diplococcus of pneumonia, we leave the pathologist to determine.

Respectfully,

J. E. COPELAND, M.D.

ROUND HILL, VA.

THE RELATIVE LOCALIZATION OF CARCINOMA IN FEMALES.

To the Editor of THE MEDICAL NEWS,

SIR: In an editorial in THE MEDICAL NEWS of January 7, 1893, p. 21, the following statement is made: "The statistics of carcinomata among women show that in about 70 per cent. of the cases the disease is located in the organs of generation, most frequently in the breast. In the majority of these cases, again, the patients are either unmarried or, if married, have never borne children, or so few as to fail to satisfy the normal tendency to activity in the organs concerned."

In Pozzi's *Gynecology* it is said: "Women are more subject to cancer than men, and it is the uterus which is most frequently attacked. This fact has been proved beyond doubt by J. Y. Simpson's statistics in the *Annual Report of the Registrar-General for England* of the years 1847–61. During the period which may be called uterine life of the woman their frequency is most manifest, that is, from puberty to the menopause, when it attains its maximum. After the uterus, the breast is most often attacked."

In the fifth edition of Thomas's *Diseases of Women* is the following: "Cancer is an affection of frequent occurrence, and is more frequently seen in the uterus than any other organ. According to Rokitansky the following average scale may be adopted as representing the preference of cancer for various organs: First, the uterus, the female breast, etc. Statistics prove that cancer is nearly three times more frequent in women than in men, and more than three times more frequently met with in the uterus than in any other organ of the female."

Pozzi says: "Local predisposing causes which have

been mentioned are laceration and metritis of the cervix. Mangin has made histological researches of great interest on the point. He also instances the effect of repeated parturition, but it is possible that this repetition acts only by the laceration and inflammation which are its consequences." Thomas says: "Cancer of the uterus is more frequently observed among multiparæ than nulliparæ. Of Scanzoni's 108 cases—

8	had been delivered	. . .	11 times
3	"	. . .	10 "
14	"	. . .	8 "
13	"	. . .	7 "
21	"	. . .	6 "
10	"	. . .	5 "
3	"	. . .	4 "

"The results of Mr. Sibley's investigation in the Middlesex Hospital go to prove this fact. He found the average number of children borne by women suffering from this disease was 30 per cent. in advance of the average of all marriages. With reference to uterine cancer, my experience certainly goes to sustain the opinion of Breisky, Emmet, and others, that epithelioma of the cervix very generally engrafts itself upon a laceration."

Which statements are correct—those of the editorial or those quoted from Pozzi and Thomas?

Respectfully yours, ADELAIDE LAMBERT.

263 ORANGE STREET, NEW HAVEN, CONN.

[Opinions are divided upon the subject. Thus, in the last edition of Thomas's work, edited by Mundé (1891), p. 805, it is stated that "This disease (cancer of the breast) is exceedingly common, being, we believe, even more common in the female sex than cancer in that other favorite locality, the cervix uteri." We only stated our own belief.—ED. NEWS.]

ABORTIVE FREE CRUCIAL INCISIONS IN THE TREATMENT OF CARBUNCLE.

To the Editor of THE MEDICAL NEWS,

SIR: THE MEDICAL NEWS of February 11, 1893, p. 159, contains an article on "The Treatment of Carbuncle." I believe that, as a result of personal experience, I can improve upon the treatment given.

I have for some time been in the habit of making free crucial incisions, deep enough to expose all surfaces and tissues involved. After hemorrhage has been arrested I apply the following ointment:

℞.—Acid. salicylic.	2 parts.
Lanolin. (previously heated, but not melted)	2 parts.
Cosmolin.	1 part.

Misce sec. art. Apply morning and evening upon lint held in place by sufficient adhesive plaster to cover the entire indurated surface.

In this way I produce an open wound, and soon a line of demarcation will separate the dead from the living tissue. The "core" thus artificially formed becomes a foreign and inert substance, which can easily be dissolved and separated from the living tissues by a spray of a 50 per cent. solution of hydrogen dioxid. After this has been accomplished I treat the wound with antiseptic dressings.

By this method of treatment I produce abortion (without the time-honored poultices) and with great amelioration of suffering and pain.

I have used this mode of treatment in a large number of cases, and have experienced a speedy and early recovery. I find the salicylates to be good germicides.

Yours truly, A. C. WENTZ.

HANOVER, PA.

NEWS ITEMS.

Association of American Physicians.—The preliminary program of the eighth annual meeting, to be held in the Army Medical Museum and Library Building, Washington, D. C., May 30, 31, and June 1, 1893:

The President's Address, by Dr. A. L. Loomis, of New York.

Discussion on Myxedema. Referee, Dr. F. B. Kinnicutt, of New York; co-referees, Dr. J. J. Putnam, of Boston, and Dr. M. Allen Starr, of New York.

"Sporadic Cretinism in the United States," and "Supplementary Report on Amebic Dysentery," by Dr. Wm. Osler, of Baltimore.

"Some Problems in the Etiology and Pathology of Texas Cattle Fever and their Bearing on the Comparative Study of Protozoan Diseases," by Dr. Theobald Smith, of Washington.

"Experiments with the Bacillus Diphtheriæ," by Dr. A. C. Abbott, of Philadelphia.

"The Parasitic Nature of Cancer," by Dr. Heneage Gibbes, of Ann Arbor.

"A New Pathogenic Bacillus," by Dr. H. C. Ernst, of Jamaica Plains.

"Gonorrheal Myocarditis," by Dr. W. T. Councilman, of Boston.

"The Prophylaxis of Cholera, with especial reference to Immunization," by Dr. E. O. Shakespeare, of Philadelphia.

"Creasote in the Treatment of Tuberculosis," by Dr. J. T. Whittaker, of Cincinnati.

"On a Simple Continued Fever," by Dr. G. Baumgarten, of St. Louis.

"The Treatment of Typhoid Fever," by Dr. S. A. Fisk, of Denver.

"The Intestinal Treatment of Chlorosis," by Dr. F. Forchheimer, of Cincinnati.

"Probable Origin and Early Symptoms of Certain Chronic Diseases of the Kidneys," by Dr. C. S. Bond, Richmond, Ind.

"The Reactions of the Urine with Ether," by Dr. A. H. Smith, of New York.

"A Study of Addison's Disease and of the Adrenals," by Dr. W. G. Thompson, of New York.

"Two Cases of Cystic Calculus," and "Two Cases of Diaphragmatic Hernia," by Dr. James Tyson, of Philadelphia.

"Subphrenic Abscess with especial reference to Cases which Simulate Pneumothorax," by Dr. A. L. Mason, of Boston.

"Subphrenic Abscess," by Dr. S. J. Meltzer, of New York.

"Sarcoma of the Lung, with Specimen," by Dr. D. W. Prentiss, of Washington.

"Pulsating Pleural Effusions," by Dr. Jas. C. Wilson, of Philadelphia.

"The Importance of Uterine Displacements in the Production of Vomiting during the Early Stages of Pregnancy," by Dr. G. M. Garland, of Boston. To be discussed by Drs. W. T. Lusk and W. M. Polk.

"Experimental Observations Concerning the Nature of Chorea," by Dr. H. C. Wood, of Philadelphia.

Paper (title to be announced later) by Dr. W. M. Polk, of New York.

The Fourth Section of the International Congress of Charities, Correction, and Philanthropy, to be held in Chicago in 1893, is to consider all matters relating to the commitment, detention, care and treatment of the insane. The Committee of Organization of the Congress has appointed Dr. G. Alder Blumer, Superintendent of the Utica State Hospital, Utica, N. Y., as Chairman of this Section, and Dr. A. B. Richardson, Superintendent of the Columbus Asylum for the Insane, Columbus, Ohio, as its Secretary, and has authorized and requested them to complete its organization, to extend invitations, and to prepare a program for its work.

The Section will hold five meetings of about two hours each, commencing June 12th, 1893, and will also have charge of one of the general sessions of the Congress, viz., that held on the morning of June 17th.

It is desired that this shall be a truly international gathering for conference on the subjects allotted to this Section, and all who are interested in the commitment, detention, care, and treatment of the insane, are cordially invited to be present, to contribute papers, and to take part in the discussions.

The papers and proceedings will probably be printed as a separate volume, and it is hoped that this will represent the best methods and the best work in each of these departments in all parts of the world.

In the selection of topics, those of international interest and utility should have precedence over those of a more local character; for instance, histories of the movements in which alienists the world over are interested, presentations of the actual status of work in behalf of the insane, in any of its numerous departments, and discussion of living questions, might fitly occupy the time and attention of the Section.

Persons desiring to present papers, or to share in the discussions, are requested to communicate with the Secretary at once. The period of time allotted for the preparation of the program is necessarily brief, and it is essential that all who are willing to assist in this work should act promptly.

Sickness and Mortality Statistics of the U. S. Navy.—The sick of the Navy during the year 1891 were 12,151, a decrease of 698 as compared with the previous year, when the number was 12,849.

The sick were distributed as follows: 7934 on vessels afloat and receiving-ships, 1733 in hospitals, and 2484 at navy yards and stations.

The daily average number of sick on vessels afloat and receiving-ships was 162.29, which was practically the same as the previous year, when it was 161.86. The average number of days each case was under treatment was 7.46, while the previous year the average was 6.86 days.

The total number of sick days of the force afloat and on receiving-ships represented a loss to the Government of 59,237 days, or an average of 162.29 men on the sick list daily. Of the 7934 patients on the sick list, 6968 were returned to duty, 727 were invalided to hospitals, 46 were discharged from the service, 41 died, and 152 continued under treatment at the close of the year.

The number of deaths during the year 1891 was 91, distributed as follows: 34 in the hospitals, 16 at the yards and stations, and 41 on vessels afloat and on receiving-ships, making a ratio of 7.91 in a thousand. These figures, as compared with previous years, show a very gratifying result, being the lowest death-rate in the Navy for many years, and which can be attributed to the absence throughout the year of casualties and epidemic diseases.

The death-rate for the year 1888 was 12; for 1889, 18; for 1890, 9; and for 1891, 7.

The Section on Therapeutics of the Pan-American Medical Congress.—It is the earnest desire of the officers of the Section on Therapeutics of the Pan-American Medical Congress that both specialists and general practitioners should contribute articles to its proceedings. Those desiring to read papers at this meeting should at once notify Dr. H. A. Hare, President of the Section, Philadelphia, of their intention, and should send him by July 10th abstracts of papers, in order that these may be translated into the three official languages of the Congress and published in the program.

The American Association for the Study and Cure of Inebriety will hold a special meeting at the hall of the New York Academy of Medicine, No. 19 West 43d Street, New York City, March 23, 1893, at 8 P.M. The subject for discussion will be "Specific Remedies for the Treatment and Cure of Alcoholic and Opium Inebriety." Short papers will be read by Dr. Norman Kerr, of London; Drs. Kiernan, Clevenger, and Moyer, of Chicago; Dr. Hughes, of St. Louis; Dr. Peterson and Clark Bell, Esq., of New York; Drs. Mason, Mattison, Mann, and Wood, of Brooklyn; Dr. Day, of Boston; Dr. Crothers, of Hartford; Dr. Russell, of Winchendon, Mass.; Dr. Quimby, of Jersey City; and others.

Suicides of the Insane in New York.—A typographical error occurred in THE NEWS of March 11th, p. 260. The number of suicides of patients in the asylums of the State of New York was given as 15 per cent. It should have been 15 per annum.

BOOKS AND PAMPHLETS RECEIVED.

Die Mikroörganismen der Mundhöhle. Von W. D. Miller, Dr. Med. et Phil., Professor am zahnärztlichen Institut der Universität, Berlin. Mit 134 Abbildungen im Texte und 18 Photogrammen. Zweite Umgearbeitete und stark erweiterte Auflage. Leipzig: Verlag von Georg Thieme, 1892.

The Anatomy of the Peritoneum. By Franklin Dexter, M.D. New York: D. Appleton & Co., 1892.

Manual of Practical, Medical, and Physiological Chemistry. By Chas. E. Pellew, E.M. New York: D. Appleton & Co., 1892.